



DoD Information Technology Testbed

Center for Army Lessons Learned

TO-BE Workshop

Report

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GENERAL DYNAMICS
Information Systems

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Executive Summary

The Collaborative Session II, TO-BE modeling workshop, was conducted from 8-11 February 2000 at the Center for Army Lessons Learned (CALL) Information Technology Center at Fort Leavenworth, Kansas. Representatives from the CALL, Department of Defense Information Technology Testbed (DITT) Core Team participated with support provided by c3risk inc, General Dynamics Information Systems and ANDRULIS Corporation.

The principle outcome planned for the session was for CALL functional experts to develop an IDEF0 TO-BE model depicting the “Research CALL Data Base” activity. Additional planned outcomes included the identification of improvement opportunities and on a priority basis to ensure their inclusion into the model. The session met these objects and in some instances exceeded them.

The workshop commenced with a review of the current CALL mission as developed in the AS-IS session for completeness in the TO-BE environment. The participants validated the previously stated missions enumerated in the AS-IS session and added an additional mission for the TO-BE environment (*italicized below*). The core mission objectives that were used in the development of the TO-BE model are to:

1. Collect, analyze and disseminate lessons learned, tactics, techniques, procedures, research material and security assessment to the Army.
2. Define functional requirements to collect, analyze and disseminate information in order to test, evaluate, develop and transfer to other government agencies new technologies and methodologies.
3. Serve as a functional testbed site within the DoD for the development and implementation of technologies that improve the collection, analysis and dissemination of information and data.
4. Store electronically and disseminate operational records and important information for long-term use and preservation.
5. *Serve as the central node for a knowledge reachback system to provide information support to deployed U.S. forces units engaged in training exercises and to Army force design efforts.*

Upon determining the core missions that needed to be supported, the participants prioritized the improvement opportunities that were generated during the previous workshop. The intent was to focus TO-BE modeling efforts in those areas that provided maximum return towards mission objectives.

The participants proceeded to use the Integrated Definition for Function Modeling (IDEF0) methodology to model the activities in the Research CALL Data Base area. During the course of this effort additional improvement opportunities were identified. Further prioritization was conducted to scope the model to appropriate developmental increments.

The final day was dedicated to reviewing the project plan and providing an orientation briefing of object-oriented methodology in preparation for the IDEF0 to object-oriented transition.

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1 Introduction

1.1 Workshop Overview

The TO-BE modeling workshop was conducted from 8-11 February 2000 at the Center for Army Lessons Learned (CALL) Information Technology Center at Fort Leavenworth, Kansas. Representatives from the CALL, Department of Defense (DoD) Information Technology Testbed (DITT) Core Team were in attendance, in addition to support from c3risk inc (c3risk), General Dynamics Information Systems (GDIS) and ANDRULIS Corporation (see Appendix A for a full list of attendees).

The planned outcomes for the workshop were to:

- Validate purpose, scope and viewpoint of the CALL TO-BE IDEF0 model
- Develop a TO-BE IDEF0 model in the AS-IS identified prioritized area of RESEARCH CALL DB
- Prioritize within the RESEARCH CALL DB area to structure further decomposition
- Identify additional improvement opportunities

The first day of the workshop started with the participants signing in (see Appendix A), determining workshop groundrules and stating their expectations for the TO-BE workshop. This was followed by a step-through of the weeks' agenda and a review of the modeling methodology - Integrated Definition for Function Modeling (IDEF0).

The participants reviewed the current CALL mission as developed in the AS-IS session for applicability in the TO-BE environment. They validated that all previously stated missions enumerated in the AS-IS model apply in the TO-BE environment to include item five listed below. The resultant core missions that were accepted and underpinned the development of the AS-IS model are to:

1. Collect, analyze and disseminate lessons learned, tactics, techniques, procedures, research material and security assessments to the Army.
2. Define functional requirements to collect, analyze and disseminate information in order to test, evaluate, develop and transfer to other government agencies new technologies and methodologies.
3. Serve as a functional testbed site (DITT) within the DoD for the development and implementation of technologies that improve the collection, analysis and dissemination of information and data.
4. Store electronically and disseminate operational records and important information for long-term use and preservation.
5. Serve as the central node for a knowledge reachback system to provide information support to deployed U.S. forces units engaged in training exercises and to Army force design efforts.

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The CALL DITT Core Team was to provide these mission activities to the Director, CALL for review in order to give the Director the opportunity to authorize and change the mission statement. These additional mission activities are believed to add value to the CALL mission and are perceived to be valid mission activities, but are not currently included in the published Command Mission statement – this activity is still being accomplished.

The participants were then asked to determine the purpose for building the model, from whose viewpoint and the scope of examination as they apply to the TO-BE environment. The participants used the statements developed in the AS-IS model and modified only the scope statement, namely, they added 'or analysis' to the initiating of the process.

- **Purpose:** To identify and define the functions of creating, collecting, analyzing, storing and disseminating information to support the core CALL mission.
- **Viewpoint:** Director, CALL
- **Scope:** Begins with a perceived need or request for information (RFI) or analysis
Ends with the storage or dissemination of information

To establish a context for the development of the TO-BE model, the participants were asked to prioritize the improvement opportunities (IOs) initially developed during the AS-IS workshop. These IOs would provide the structural underpinning for portraying the TO-BE environment.

The criteria applied to each improvement opportunity (IO) were:

- High potential for successful implementation
- External customer base most affected
- Expense to mission goal
- Most improved efficiency for internal customer

The results of the prioritization effort are outlined in Section Two of this document. The numerical decision matrices can be found at Appendix B.

After prioritizing the IOs the participants directed their attention to the A4 activity, PROVIDE CALL DB. They agreed that the title was limiting and not reflective of the future environment. They renamed the activity: PROVIDE VIRTUAL RESEARCH LIBRARY. The definition of the activity was also broadened to accommodate the CALL website.

The group was then asked to brainstorm the next level of activities under A4 - PROVIDE VIRTUAL RESEARCH LIBRARY. This resulted in the identification of five major support activities. They are:

- A41 – PROCESS ACQUISITION
- A42 - ADMINISTER VIRTUAL RESEARCH LIBRARY SYSTEM
- A43 – ENHANCE VIRTUAL RESEARCH LIBRARY

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- A44 - RESEARCH VIRTUAL RESEARCH LIBRARY
- A45 – CONDUCT INFORMATION SECURITY

Within each of these activities the participants were then asked to decompose to the next level of detail and define all the activities developed thus far. The results of that effort can be found at Appendix D.

Once the skeletal structure of the model was determined, the participants were asked to prioritize at the A4 level to establish the sequencing for detailed model development. The prioritization criteria applied to each activity were:

- High potential for successful implementation
- Mission importance
- Greatest external political impact
- Willing candidates for internal change
- Greatest functional impact

The prioritization was designed to provide a multi-dimensional, in-depth analysis of the A4 activities that would determine the critical areas for mission-oriented process and technical improvement. The resultant prioritized order of modeling activities is:

A41 – PROCESS ACQUISITION
A43 - ENHANCE VIRTUAL RESEARCH LIBRARY
A45 - CONDUCT INFORMATION SECURITY
A42 - ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM
A44 - RESEARCH VIRTUAL RESEARCH LIBRARY

Using the prioritized order noted above, the team proceeded to expand the model to further levels of detail. The A41 activity was decomposed at least two levels with full ICOM views at the A4 and A41 nodes. The completed model is found at Section 3 of this document.

While building the PROCESS ACQUISITION node the participants provided additional IOs. These recommended enhancements to the process are found in Section 2 of this document.

The remainder of the workshop was dedicated to refining the A4 level diagrams to include providing ICOMs and a complete set of definitions (see Section 3).

The final day of the session consisted of an overview of object-oriented (OO) modeling methods in preparation for the transition of the IDEF0 to OO methodology (see Appendix F) and a review of the project plan that can be found at Appendix C.

1.2 Background

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At the outset of the project the contractor team (c3risk inc, General Dynamics Information Systems and ANDRULIS) agreed to meet and address the salient project implementation issues and to provide recommendations for implementation to the DITT Core Team.

On 20-21 December 1999 a model assessment and project scoping meeting was conducted between representatives of GDIS, c3risk and ANDRULIS. The purpose of the meeting was to:

- Provide a current status and an assessment of the CALL AS-IS model developed by GDIS (September 1999 and undelivered December 1999 versions)
- Define the roles and responsibilities of all participants
- Develop project assumptions
- Determine the report generation process flow
- Discuss and resolve the requirements of the collaborative meetings
- Review and update the project plan

The following month, 11-13 January 2000, an AS-IS modeling workshop was conducted at the ANDRULIS Integrated Decision Support Center. The DITT Core Team was in attendance, in addition to support from c3risk, GDIS and ANDRULIS.

The outcomes for the workshop were to:

- Validate the high level CALL Mission model
- Prioritize the implementation of the major activities
- Develop the CALL DITT AS-IS model
- Determine IOs
- Review project schedule and address appropriate issues

The detailed results can be found in the Workshop Reports outlined in Appendix H – References.

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2. Improvement Opportunities

2.1 Prioritized List of AS-IS Developed Improvement Opportunities

The basis for the TO-BE model is the IOs identified in the AS-IS modeling workshop. At the outset, the participants were asked to prioritize the IOs in order to determine the points of emphasis in developing the TO-BE model. They used the following criteria to establish their priorities:

- High potential for successful implementation
- External customer base most affected
- Expense to mission goal (bang for the buck)
- Most improved efficiency for internal customer

Tabulated below is the resultant vote by the functional participants. The numerical number is the cumulative total of each criterion as applied to the IO. The complete prioritization vote can be found at Appendix C.

Improvement Opportunity	Total
Implement Supporting Technology. Document Management System, workflow system for routing and gather metrics, develop reports	35.07
Have acquisitions automatically pushed from short term to long term repository based upon a rule set	28
Re-examine core technology	28
Enhance Automated Document Conversion system	26.73
Capture system-generated metadata and auto-populate core CALL DB metadata elements.	25.43
Allow for the augmentation of metadata for lifecycle management purposes	25.08
Enhance the acquisition process so that we can handle any acquisition in an electronic environment	24.47
Advanced search tools	24.37
Integrated thesaurus capability	20.97
Test and prototype new processing and conversion technologies	20
Automated detection of possible duplicate records	19.33
Manage documents/records with records management application (RMA)	17.67
Establish a control board and associated process to review and approve changes/enhancements to the system	17.5
Advanced hierarchical storage system	16.33
Develop 1, 3 and 5 year strategic plans	15.83
Unassisted load and index of CALL DB	15.33
Auto launch processes that can be unattended	15
Develop and implement a central new requirements database/repository	14.5
Automate the searching of pure electronic documents for classification markings	14.5
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB	13.5
Begin Freedom of Information Act (FOIA) answers as per Electronic FOIA Act	12.5
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media	12
Capture correction activity as an automated report process	10.33
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for	9

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CALL Thesaurus	
Improvement Opportunity	Total
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s)	9
Additional metadata to aid in document search and retrieval	9
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	9
Provide auto-feedback to CALL RD regarding # of documents uploaded	7
Define workflow requirements for the declassification process	6
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes	3
Incorporate software tools to assist in redaction	2

2.2 TO-BE Developed Improvement Opportunities

During the development of the TO-BE model additional IOs were identified. They are:

- Determine an efficient set of activities to handle and process all incoming documents/records on one system (Secret) and output the unclassified metadata and documents/records to the Unclassified CALL DB.
- Automate the searching of pure electronic documents for classification markings
- Provide backups during the processing of records
- Desk-side upload feature
- Automated checks prior to upload
- Automated rule set for declass and downgrade
- Standardize metadata for information security
- Standardize process for information security
- Version tracking for declassified and downgraded documents
- Automated review of classified documents to identify sensitive information
- Capability to search automated indexes for work in progress

2.3 Improvement Opportunities Mapped to TO-BE Model

Tabulated below are all the IOs developed thus far and the primary activities they affect.

Improvement Opportunity	Activity Name	Activity Node
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB.	PROCESS ACQUISITION	A41
Develop 1, 3 and 5-year strategic plans	CREATE PROCESSING PROCEDURES	A411
Capability to search automated indexes for work in progress	RECEIVE DOCUMENT/RECORD	A412
Automated detection of possible duplicate records	RECEIVE DOCUMENT/	A412

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	RECORD	
Improvement Opportunity	Activity Name	Activity Node
Unassisted load and index of CALL DB	RECEIVE DOCUMENT/ RECORD	A412
Desk-side upload feature	RECEIVE DOCUMENT/ RECORD	A412
Automated checks prior to upload	RECEIVE DOCUMENT/ RECORD	A412
Allow for the augmentation of metadata for lifecycle management purposes	RECEIVE DOCUMENT/RECORD PROCESS DOCUMENT/ RECORD	A412 A413
Capture system-generated metadata and auto-populate core CALL DB metadata elements	RECEIVE DOCUMENT/RECORD PROCESS DOCUMENT/ RECORD	A412 A413
Enhance the acquisition process so that we can handle any acquisition in an electronic environment	RECEIVE DOCUMENT/ RECORD PROCESS DOCUMENT/ RECORD	A412 A413
Provide auto-feedback to CALL RD regarding the number of documents uploaded	PROCESS DOCUMENT/ RECORD	A413
Automate the searching of pure electronic documents for classification markings	PROCESS DOCUMENT/ RECORD	A413
Provide backups during the processing of records	PROCESS DOCUMENT/ RECORD	A413
Implement supporting technology. Document management system, workflow system for routing and gather metrics, develop reports	PROCESS DOCUMENT/ RECORD	A413
Enhance Automated Document Conversion system	PROCESS DOCUMENT/ RECORD	A413
Test and prototype new processing and conversion technologies	PROCESS DOCUMENT/ RECORD	A413
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus	PROCESS DOCUMENT/ RECORD	A413
Capture correction activity as an automated report process	PROCESS DOCUMENT/ RECORD	A413
Additional metadata to aid in document search and retrieval	PROCESS DOCUMENT/ RECORD	A413
Integrated thesaurus capability	PROCESS DOCUMENT/ RECORD	A413
Have acquisitions automatically pushed from short term to long-term repository based upon a rule set	MANAGE REPOSITORY	A415
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media	MANAGE REPOSITORY	A415
Advanced hierarchical storage system	MANAGE REPOSITORY	A415
Manage documents/records with RMA	MANAGE REPOSITORY	A415
Develop and implement a central new requirements database/repository	ENHANCE VIRTUAL RESEARCH LIBRARY	A43
Re-examine core technology	ENHANCE VIRTUAL RESEARCH LIBRARY	A43

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Establish a control board and associated process to review and approve changes/enhancements to the system	ENHANCE VIRTUAL RESEARCH LIBRARY	A43
Improvement Opportunity	Activity Name	Activity Node
Begin FOIA answers as per Electronic FOIA Act	RESEARCH VIRTUAL RESEARCH LIBRARY	A44
Advanced search tools	RESEARCH VIRTUAL RESEARCH LIBRARY	A44
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes	RESEARCH VIRTUAL RESEARCH LIBRARY	A44
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s)	CONDUCT INFORMATION SECURITY	A45
Automated rule set for declass and downgrade	CONDUCT INFORMATION SECURITY	A45
Standardize metadata for information security	CONDUCT INFORMATION SECURITY	A45
Standardize process for information security	CONDUCT INFORMATION SECURITY	A45
Version tracking for declassified and downgraded documents	CONDUCT INFORMATION SECURITY	A45
Automated review of classified documents to identify sensitive information	CONDUCT INFORMATION SECURITY	A45
Incorporate software tools to assist in redaction	CONDUCT INFORMATION SECURITY	A45
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	CONDUCT INFORMATION SECURITY	A45
Define workflow requirements for the declassification process	CONDUCT INFORMATION SECURITY	A45
Auto launch processes that can be unattended	All activities	

3. TO-BE Activity Model

3.1 Introduction

After reviewing the command mission and validating the purpose, viewpoint, and scope of the TO-BE model, the CALL functional participants constructed the A4 node, PROVIDE VIRTUAL RESEARCH LIBRARY to increasing levels of decomposition.

What follows is the CALL TO-BE IDEF model and definitions focusing in the area of A41 PROCESS ACQUISITION.

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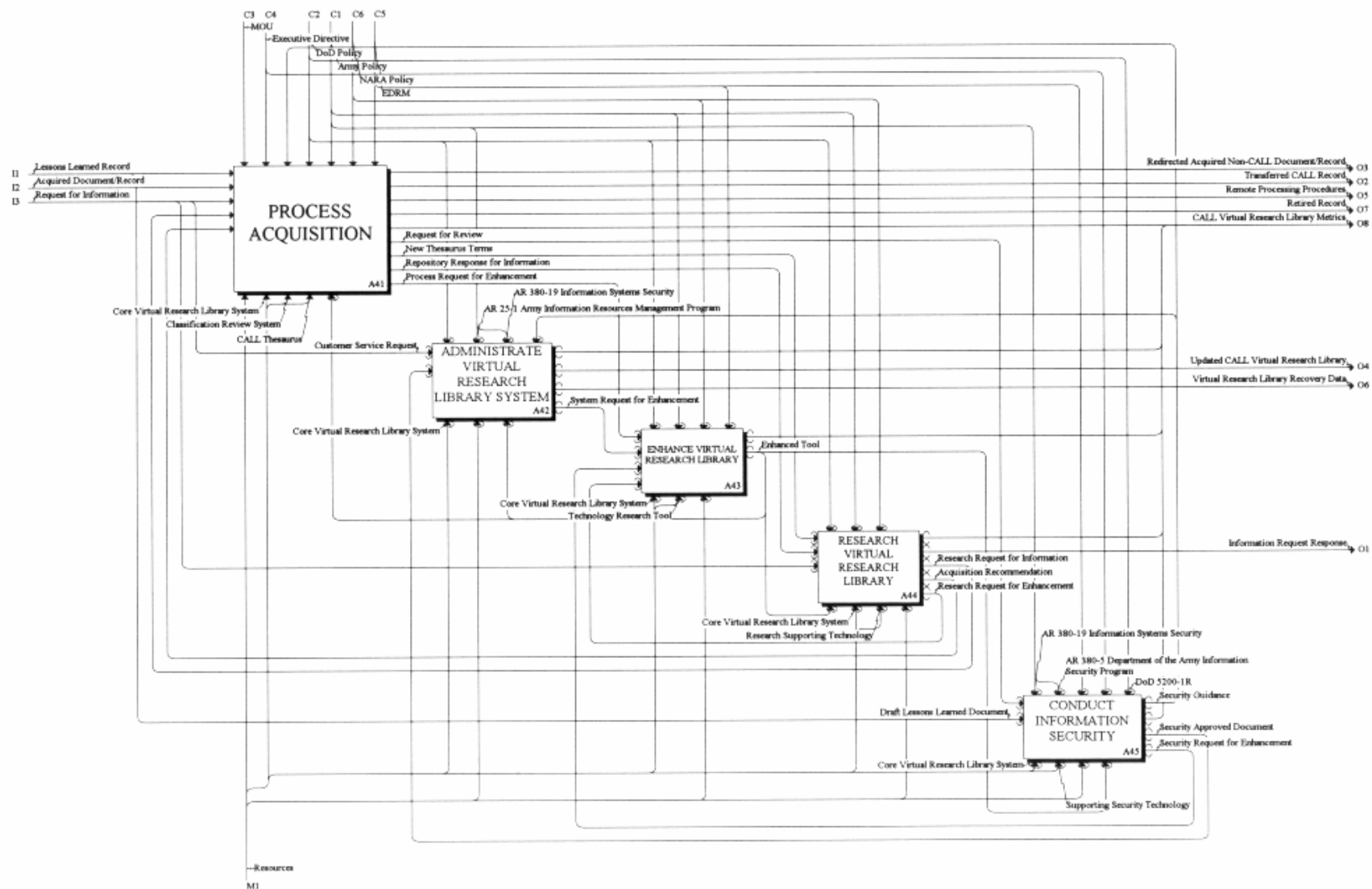


Figure 1 - PROVIDE VIRTUAL RESEARCH LIBRARY
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A41 PROCESS ACQUISITION - Add value to an acquired document or record for inclusion in the VRL.

A42 ADMINISTER VIRTUAL RESEARCH LIBRARY SYSTEM - Perform system life-cycle activities this includes data backup, file system maintenance, disaster recovery and software/hardware maintenance.

A43 ENHANCE VIRTUAL RESEARCH LIBRARY - Improve the functionality of the VRL by implementing new or advanced capabilities and technologies and ensure interoperability.

A44 RESEARCH VIRTUAL RESEARCH LIBRARY - Conduct research using the capabilities of the CALL VRL to answer requests for information from government and non-government sources.

A45 CONDUCT INFORMATION SECURITY - Protect information from unauthorized access or disclosure. Downgrade or declassify records based on classification guidance.

Acquired Document/Record - Document or record, regardless of media, sent to the CALL or acquired by the CALL from non-CALL sources. Also known as an acquisition. Material collected or received for the CALL business processes.

Acquisition Recommendation - Recommendation made by the research component of the Virtual Library that results in the acquisition of new documents/records for inclusion in the VRL.

AR 25-1 Army Information Resources Management Program - Governs system administration and lifecycle management of media, data and systems.

AR 380-5 Department of the Army Information Security Program - The Army Regulation titled Department of the Army Information Security Program that governs the Army information security program.

AR 380-19 Information Systems Security - Governs information systems security requirements and responsibilities.

Army Policy - Information that governs Army operations, activities and missions. This would include Army supplemental guidance on DoD policy.

CALL Thesaurus - A list of military terms and expressions organized in a hierarchical structure that is VRL focused.

CALL Virtual Research Library Metrics - Metrics and statistics electronically collected and generated during the operation of the VRL used to create reports, study the process for improvement and make management decisions.

Classification Review System - Automated system that will allow the user to change the classification of a document by either redaction (using standard exemptions), downgrading or upgrading this includes processing and handling tools, import/export capabilities, version control and metrics.

Core Virtual Research Library System - Components required by CALL, to acquire, process, store, manage and make available information, documents and records from multiple sources that are considered of importance to the Army and the US military in a long term electronic repository. This includes providing, and continuing to improve, links to useful resources and search/retrieval tools that access this data through the use of internet technologies and interfaces to the repository user.

Customer Service Request

DoD 5200-1R - Security regulation from DoD that regulates the process of classification and declassification of records. Titled "Information Security Program Regulation" governs the DoD Information Security Program.

EDRM - Enterprise Document and Record Management will be the policy by which the DoD will develop lifecycle electronic documents, records and information management policies and standards for the DoD, the Joint community and the Services. The EDRM working group will also serve as the mechanism for the export of DITT-developed technologies and methodologies.

Enhanced Tool - Improvement on or replacement of a tool for the purpose of improving the functionality of the VRL or associated systems.

Executive Directive - Presidential Order issued to the executive branch of the federal government

Information Request Response - A response to an inquiry drawing on resources in the VRL and other available sources.

Lessons Learned Record - Record created and collected in support of the development of Lessons Learned.

MOU - Memorandum of Understanding (Agreement) is a written agreement between agencies which is like a contract and that defines the purpose, scope and responsibilities of all parties in regards to an activity of interest to all parties.

NARA Policy - A comprehensive policy covering electronic lifecycle records management that will incorporate concepts such as a new-style affiliate archives and electronic documents as electronic new original records.

New Thesaurus Terms - Add to the existing thesaurus new words and expressions.

Process Request for Enhancement - Identified need for improvement on or replacement of a tool, component or system, for the purpose of improving the functionality of the VRL or associated systems.

Redirected Acquired Non-CALL Document/Record - Non-CALL documents returned to original source or retired to a Federal Records Center (NARA facility). Includes documents or records that are received but not processed. They are transferred as a redirected non-CALL document/record.

Remote Processing Procedures - CALL created standard and guidelines for converting, handling, creating preservation and dissemination formats and their respective metadata. This standard also includes procedures for operating and utilizing the remote processing tools. Remote processing tools, currently a government off-the-shelf (GOTS) product, are also deployed to the remote processors.

Repository Response for Information - Response to a query of the VRL by personnel internal to CALL in pursuit to internal and external information requirements.

Request for Information - An inquiry seeking assistance in answering a question.

Request for Review - Request from a CALL division to review a document for security classification, supplemental markings, for public release.

Research Request for Enhancement - Identified need for improvement on or replacement of a tool, component or system, for the purpose of improving the functionality of the VRL or associated systems.

Research Request for Information - A query of the VRL by personnel internal to CALL in pursuit of internal and external information requirements.

Research Supporting Technology - Various technologies or methodologies that enable the researcher to locate and access needed information.

Resources - Personnel, equipment, technology, facilities, supplies, funds, intellectual properties, etc.

Security Approved Document - Derivate document reviewed by the Information Security Specialist for classification determination

Security Guidance - Policy and procedure created by the Information Security Specialist that affects the processing and procedures used for PROCESS ACQUISITION. Security classification and handling guidance on how to process certain types of documents.

Security Request for Enhancement - Request made by the Information Security Specialist to enhance the security measures/guidance for the VRL

Supporting Security Technology - Technologies that support both tracking and version control of classified records and documents and the semi-automated and automated redaction of classified records and documents in support of declassification and downgrading functions.

System Request for Enhancement - Software/Hardware identified by the systems group that will increase the functionality of the VRL.

Technology Research Tool - Various technologies or methodologies that enable the information technology specialist to locate and access needed information for the purpose of designing, buying, building and implementing new or advanced technologies that will increase the functionality of the VRL.

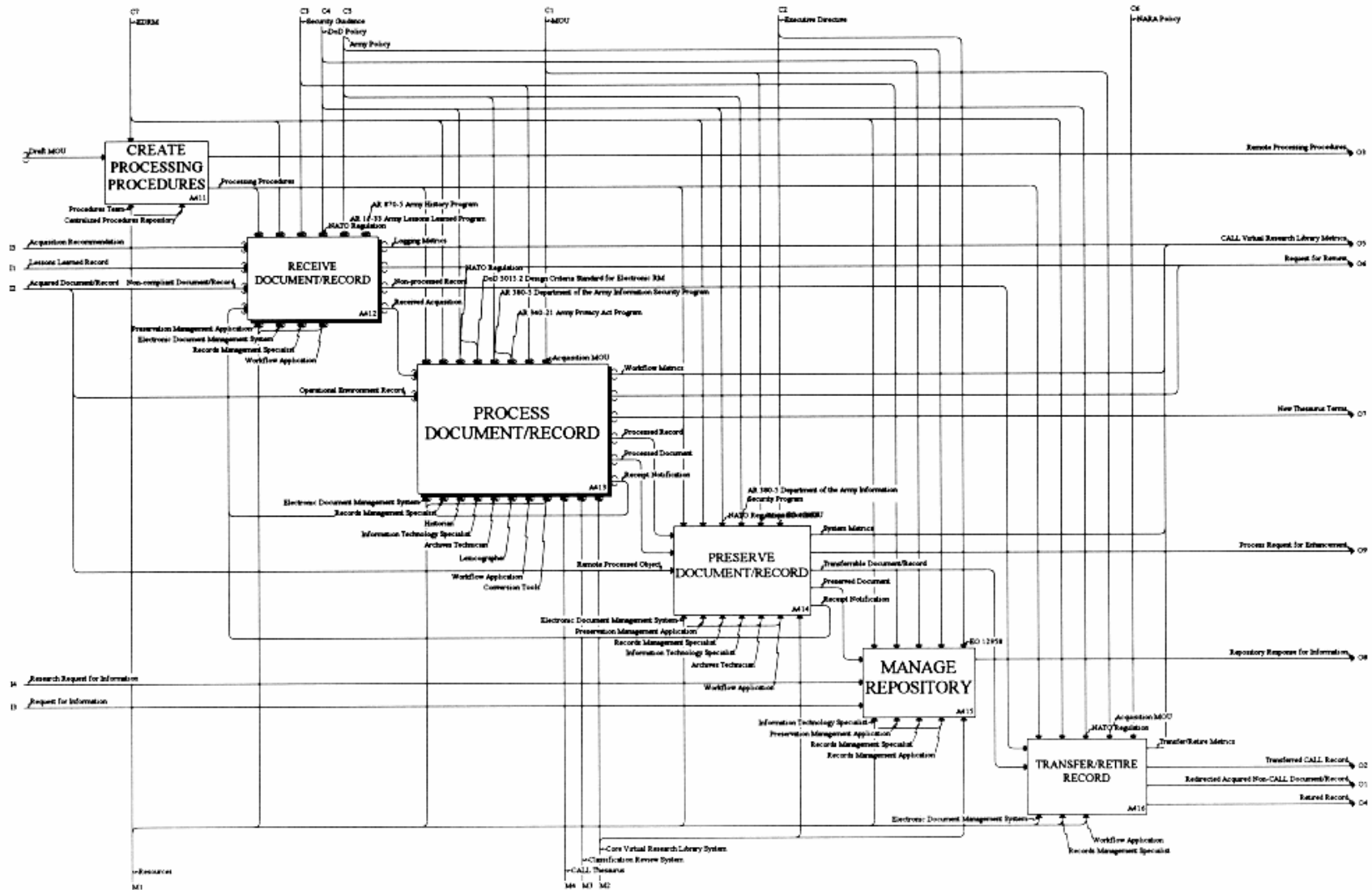
Transferred CALL Record - Transferred or retired CALL business process record (to include electronic)

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to an approved Army repository or NARA facility.

Updated CALL Virtual Research Library - Added, removed or upgraded advanced tools and processed documents that are of importance to the Army and the US military.

Virtual Research Library Recovery Data - Procedures and electronic media used to recreate the VRL system and contents in its entirety.



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Figure 2 – A41 PROCESS ACQUISITION

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A411 CREATE PROCESSING PROCEDURES - Define and disseminate procedures and workflow for standardized handling and processing of documents to be placed in the VRL to include metrics, metadata, preservation and dissemination formats.

A412 RECEIVE DOCUMENT/RECORD - Receive an acquired record or document for input into the VRL, so that life cycle management for that record can be implemented.

A413 PROCESS DOCUMENT/RECORD - Add value to a record for inclusion in the VRL this includes metadata creation and augmentation, classification verification, paper preparation for conversion, preservation and dissemination conversion, tasking and time tracking.

A414 PRESERVE DOCUMENT/RECORD - Receive processed record or document, place in preservation repository, make available the dissemination document. Generate capture and make available preservation metrics to senior CALL managers.

A415 MANAGE REPOSITORY - Ensure that document or record is controlled to ensure its authenticity and completeness (e.g. contains all of the parts of the document or record and all meta-data). Perform tasks that ensure appropriate disposition

A416 TRANSFER/RETIRE RECORD - Transfer documents or records to originator or designated recipient. Retire records regardless of media to a NARA approved facility.

Acquired Document/Record - Document or record, regardless of media, sent to the CALL or acquired by the CALL from non-CALL sources. Also known as an acquisition. Material collected or received for the CALL business processes.

Acquisition MOU - A memorandum of understanding or agreement between CALL and other agencies, military or federal organizations, that establishes guidelines, responsibilities and procedures for partnership, collaboration and processing of documents and records for upload onto the CALL DB.

Acquisition Recommendation - Recommendation made by the research component of the Virtual Library that results in the acquisition of new documents/records for inclusion in the VRL.

AR 11-33 - Establishes and governs the Army Lessons Learned program.

AR 340-21 - Protects certain personal information on individuals from unauthorized disclosure by the Federal government in compliance with 5 USC 552 and 552a, 32 Code of Federal Regulations (CFR) 518 and 505, DoD 5400.7, DoD 5400.11-R, AR 25-55, and AR 340-21.

AR 380-5 - The Army Regulation titled Department of the Army Information Security Program that governs the Army information security program.

AR 870-5 - Governs and implements the Army History Program.

Archives Technician - Knowledge workers that perform the actual processing of acquired records and documents to prepare them for preservation and dissemination.

Army Policy - Information that governs Army operations, activities and missions. This would include Army supplemental guidance on DoD policy.

CALL Thesaurus - A list of military terms and expressions organized in a hierarchical structure that is VRL focused.

CALL Virtual Research Library Metrics - Metrics and statistics electronically collected and generated during the operation of the VRL used to create reports, study the process for improvement and make management decisions.

Centralized Procedures Repository - a repository where improvement opportunities, best practices, request for improvement and proven concepts or lessons learned are input and retained.

Classification Review System - Automated system that will allow the user to change the classification of a document by either redaction (using standard exemptions), downgrading or upgrading this includes processing and handling tools, import/export capabilities, version control and metrics.

Conversion Tools - Tools that enable records and documents to be converted to migration, preservation and dissemination formats.

Core Virtual Research Library System - Components required by CALL, to acquire, process, store, manage and make available information, documents and records from multiple sources that are considered of importance to the Army and the US military in a long term electronic repository. This includes providing, and continuing to improve, links to useful resources and search/retrieval tools that access this data through the use of internet technologies and interfaces to the repository user.

DoD 5015.2 - Establishes responsibility for the DoD Records Management Program. Updates policy and responsibilities for life-cycle management (creation, maintenance and use, and disposition) of information as records in all media, including electronic; and authorizes the publication of implementing and procedural guidance on the management of records in the DoD.

DoD Policy - Information that governs DoD operations, activities and missions. This would include policy, guidelines, and directives as issued from the Joint Community, through agencies such as Defense Information Systems Agency (DISA).

Draft MOU - A draft form of a Memorandum of Understanding (Agreement) which is a written agreement between agencies which is like a contract and that defines the purpose, scope and responsibilities of all parties in regards to an activity of interest to all parties.

EDRM - Enterprise Document and Record Management will be the policy by which the DoD will develop lifecycle electronic documents, records and information management policies and standards for the DoD, the Joint community and the Services. The EDRM working group will also serve as the mechanism for the export of DITT-developed technologies and methodologies.

Electronic Document Management System - Management system that allows for the capture and movement of documents regardless of media. Also captures or receives metrics for report and listing generation. Examples of document management reports would be records/documents received, processing and handling metrics, documents uploaded, online. Examples of listings are transfer/retirement listing and processing status list.

EO 12958 - Presidential Executive Order 12958, Classified National Security Information, dated April 17, 1995. This order prescribes a uniform system for classifying, safeguarding and declassifying national security information. Our democratic principles require that the American people be informed of the activities of their Government.

Historian - The historian examines the structure and background of the creator of a body of records (military organization, actual operation) in order to devise a hierarchical or structured arrangement for those documents/records generated in report formats.

Information Technology Specialist - Specialist in information technology disciplines such as system engineers for designing and developing applications, hardware engineers for determining size and types of technology required, network engineers for developing

and fielding communications infrastructure, system and network administrators to performance tune and maintain system availability.

Lessons Learned Record - Record created and collected in support of the development of Lessons Learned.

Lexicographer - This specialty role researches, receives and adds new terms, abbreviations and definitions and conducts research to populate the VRL Thesaurus. Perceived terms, abbreviations and definitions are also generated by this specialty.

Logging Metrics - Metrics and statistics collected and generated by the process of receipt, checking in documents and records, creating inventories, accountability, placement onto processing systems and tasking.

MOU - Memorandum of Understanding (Agreement) is a written agreement between agencies which is like a contract and that defines the purpose, scope and responsibilities of all parties in regards to an activity of interest to all parties.

NARA Policy - A comprehensive policy covering electronic lifecycle records management that will incorporate concepts such as a new-style affiliate archives and electronic documents as electronic new original records.

NATO Regulations - Regulations governing the specialized handling, storage, dissemination and disposition of NATO classified documents and records. <http://hq.nato.int/archives/room.htm>

New Thesaurus Terms - Add to the existing thesaurus new words and expressions.

Non-compliant Document/Record - Documents/Records acquired which do not meet the criteria established by the Remote Processing Procedures

Non-processed Record - Documents or records that are received but not processed, e.g. duplicates, out of mission scope, etc. The non-processed record is transferred as a redirected document/record.

Operational Environment Record - "Important" records acquired or received from an operational environment short-term repository with minimum metadata. Metadata will be augmented and lifecycle management applied within the VRL.

Preservation Management Application - Application that accepts and preserves the official record copy of any documents deemed record copy by the CALL or a CALL representative

Preserved Document - A document that has been processed and is ready to be managed and to be made available

Procedures Team - Created by task force of Technicians, Information Technology Specialist, Information Security Specialist, Records Manager, System Administrator - known as the Standards Team

Process Request for Enhancement - Identified need for improvement on or replacement of a tool, component or system, for the purpose of improving the functionality of the VRL or associated systems.

Processed Document - Value added (metadata, organizational arrangement) document for inclusion in the VRL, could have both preservation and dissemination formats at this point.

Processed Record - An acquired record that has been fully processed which includes metadata from the operational and enterprise environment, migration formats and archival formats.

Processing Procedures - Guidelines for both internal and remote processor customers that will direct the processing of records/documents prior to acceptance into the VRL

Receipt Notification - Automatic receipt notification that is generated for all remote processed documents and operational environment records upon introduction into the MAKE DOCUMENT/RECORD AVAILABLE activity.

Received Acquisition - Documents/records received for processing into the VRL.

Records Management Application - A software application that controls the life-cycle management to include access, control, on-line management and contains rule sets for determining disposition and records classification.

Records Management Specialist - Role responsible for the life cycle management of documents/records regardless of media. Also responsible for retirement/transfer of processed and unprocessed records, acquisition of records, creating and managing workflow against acquired records/documents.

Redirected Acquired Non-CALL Document/Record - Non-CALL documents returned to original source or retired to a Federal Records Center (NARA facility). Includes documents or records that are received but not processed. They are transferred as a redirected non-CALL document/record.

Remote Processed Object - Documents or records processed according to CALL Processing Standards with full metadata attached, uploaded directly into the CALL VRL. An automated receipt is generated and quality assurance process is the only activity required by CALL.

Remote Processing Procedures - CALL created standard and guidelines for converting, handling, creating preservation and dissemination formats and their respective metadata. This standard also includes procedures for operating and utilizing the remote processing tools. Remote processing tools, currently a GOTS product, are also deployed to the remote processors.

Repository Response for Information - Response to a query of the VRL by personnel internal to CALL in pursuit to internal and external information requirements.

Request for Information - An inquiry seeking assistance in answering a question.

Request for Review - Request from a CALL division to review a document for security classification, supplemental markings, for public release.

Research Request for Information - A query of the VRL by personnel internal to CALL in pursuit of internal and external information requirements.

Retired Record - Official Record Copy regardless of media that is retired to an approved NARA facility based on disposition.

Security Guidance - Policy and procedure created by the Information Security Specialist that affects the processing and procedures used for PROCESS ACQUISITION. Security classification and handling guidance on how to process certain types of documents.

System Metrics - Capture, store and report of various VRL content metrics, such as what's new, amounts, exception reporting, processing times.

Transferable Document/Record - A transferred CALL record or retired type of records

Transfer/Retire Metrics - These metrics include: amount of boxes/documents ready for retirement, when reports sent to NARA for guidance to retirement, date of actual retirement, amount of documents transferred to originating organization and/or person received from and report back to originating organization. Check out for the amount of records ready for transfer/retirement for use by management for analysis or reporting functions.

Transferred CALL Record - Transferred or retired CALL business process record (to include electronic) to an approved Army repository or

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NARA facility.

Workflow Application - A software application that enables sequential or parallel processes to be launched, complex or ad hoc workflows to be generated and metrics to be created, captured and

Workflow Metrics - Mechanism to provide statistics on how long it takes to task out the processing, track stages of processing, track time it takes to perform the stages and show when processing is complete.

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3.2 Glossary

The participants developed the following terms and definitions during the TO-BE session. Terms in capital letters (PROCESS ACQUISITION) indicate an activity. Terms that are in leading capital letters (Request for Information) indicate an input, control, output or mechanism. The alphanumeric designations (A0, A4) indicate where the terms appear on the IFEF0 TO-BE model.

Acquired Document/Record

A0 / A1 / A2 / A3 / A4 / A41

Document or record, regardless of media, sent to the CALL or acquired by the CALL from non-CALL sources. Also known as an acquisition. Material collected or received for the CALL business processes.

Acquisition MOU

A413 / A414 / A416

A memorandum of understanding or agreement between CALL and other agencies, military or federal organizations, that establishes guidelines, responsibilities and procedures for partnership, collaboration and processing of documents and records for upload onto the CALL DB. Current Acquisition MOUs are:

DoD, Partnership for Peace (PfP) and the CALL to provide international outreach for CALL products, services and potential international information input in CALL's mission areas via the PIMS (PfP Information Management System) Wide Area Network (WAN). US Army Logistics Management College (ALMC) and the CALL to assist Defense Logistics System (DLSIE) with technical expertise to receive their already processed data and records and upload them to the CALL DB. (NOTE: This organization has disbanded and the official custodian of the record, which originally belonged to DLSIE, is now the ALMC).

Army Mounted Maneuver Battle Lab (MMBL) and CALL to receive electronic records of the new tactical operations center (TOC) and disseminate lessons learned to meet the Commander's critical information requirements.

Verbal agreement, documented by a Memorandum for Record, between the Army's 10th Mountain Division, to acquire, digitize then retire their Haiti and Hurricane Andrew Operations Other than War records.

Verbal agreement, documented by a Memorandum for Record between the Environmental Support Group (now part of the Army, Records Management and Declassification Agency), to digitize and return operational records from the Somalia collection.

HQ, European Command (EUCOM) History Office (Stuttgart Germany), the CALL and the NARA provide the authority for Joint historical records generated by EUCOM to be sent directly to the CALL for processing and upload to the CALL DB and retired to the NARA under a pre-approved General Records Schedule files classification established by the NARA for HQ EUCOM.

HQ, EUCOM, Stuttgart Germany and the CALL, (involving the EUCOM Information Systems Division) to receive electronically acquired and arranged documents, records and respective metadata from the EUCOM History On-Line (ECHO) system.

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Acquisition Recommendation

A41 / A412

Recommendation made by the research component of the Virtual Library that results in the acquisition of new documents/records for inclusion in the VRL.

ADD METADATA

A413 (A4133)

Add prescribed metadata using policy and guidance as established by the Processing Team, as well as sending new terms, abbreviations and definitions to Lexicographer for research and population of VRL Thesaurus.

ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM

A4 (A42)

Perform system life-cycle activities this includes data backup, file system maintenance, disaster recovery and software/hardware maintenance.

APPEND RECORDS MANAGEMENT METADATA

A412 (A4124)

Apply records management metadata to all records in the acquisition.

AR 11-33 Army Lessons Learned Program

A412

Establishes and governs the Army Lessons Learned program.

AR 25-1 Army Information Resources Management Program

A42

Governs system administration and lifecycle management of media, data and systems.

AR 340-21 Army Privacy Act Program

A413

Protects certain personal information on individuals (e.g., social security numbers, addresses, home phone numbers) from unauthorized disclosure by the Federal government in compliance with 5 USC 552 and 552a, 32 CFR 518 and 505, DoD 5400.7, DoD 5400.11-R, AR 25-55 and AR 340-21.

AR 380-19 Information Systems Security

A42 / A45

Governs information systems security requirements and responsibilities.

AR 380-5 Department of the Army Information Security Program

A45

The Army Regulation that governs the Army information security program.

AR 870-5 Army History Program

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A412

Governs and implements the Army History Program.

Archives Technician

A413 / A414

Knowledge workers that perform the actual processing of acquired records and documents to prepare them for preservation and dissemination.

Army Policy

A0 / A1 / A2 / A3 / A4 / A41 / A42 / A45 / A415

Information that governs Army operations, activities and missions. This would include Army supplemental guidance on DoD policy.

ASSEMBLE DOCUMENT

A413 (A4134)

Link created and augmented metadata to their respective record and document components, ensuring all document/record components are linked back to the parent document. This would include assembly of respective TIFF and TXT pages from analog conversion process, multi-media and multi-component records and utilization of the same metadata for preservation and dissemination formats.

CALL Thesaurus

A41 / A413

A list of military terms and expressions organized in a hierarchical structure that is VRL-focused.

CALL Virtual Research Library Metrics

A41 / A42 / A43 / A44 / A45

Metrics and statistics electronically collected and generated during the operation of the VRL used to create reports, study the process for improvement and make management decisions.

Centralized Procedures Repository

A411

A repository where improvement opportunities, best practices, request for improvement and proven concepts or lessons learned are input and retained.

Classification Review System

A41 / A413

Automated system that will allow the user to change the classification of a document by either redaction (using standard exemptions), downgrading or upgrading this includes processing and handling tools, import/export capabilities, version control and metrics.

CONDUCT INFORMATION SECURITY

A4 (A45)

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Protect information from unauthorized access or disclosure. Downgrade or declassify records based on classification guidance.

CONDUCT REACHBACK

A44 (A441)

Conduct research using the capabilities of the CALL VRL to answer requests for information from U.S. forces conducting contingency and training operations and in support of U.S. Army force design initiatives. Consult subject-matter experts across the DoD, Joint and Army communities to respond to reachback information requests.

DOWNGRADE RECORDS

A45 (A451)

Apply automated and semi-automated downgrade processes based upon the interpretation of original classification guidance documents or original classification guidance.

Conversion Tools

A413

Tools that enable records and documents to be converted to migration, preservation and dissemination formats.

Core Virtual Research Library System

A41 / A42 / A43 / A44 / A45 / A413 / A414 / A415

Components required by CALL, to acquire, process, store, manage and make available information, documents and records from multiple sources that are considered of importance to the Army and the US military in a long-term electronic repository. This includes providing and continuing to improve, links to useful resources and search/retrieval tools that access this data through the use of internet technologies and interfaces to the repository user.

CREATE PROCESSING PROCEDURES

A41 (A411)

Define and disseminate procedures and workflow for standardized handling and processing of documents to be placed in the VRL to include metrics, metadata, preservation and dissemination formats.

Customer Service Request

A42

DECLASSIFY RECORDS

A45 (A452)

Apply automated and semi-automated processes based upon the interpretation of original classification guidance documents or original classification guidance to redact and release for public dissemination.

DoD 5015.2 Design Criteria Standard for Electronic RM

A413

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1. Establishes responsibility for the DoD Records Management Program, in accordance with Title 36, CFR, Chapter XII, "National Archives and Records Administration," Subchapter B. "Records Management," current edition), under the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I)).
2. Updates policy and responsibilities for life-cycle management (creation, maintenance, use and disposition) of information as records in all media, including electronic; and
3. Authorizes the publication of implementing and procedural guidance on the management of records in the DoD, consistent with references to (a) Title 36, CFR, Chapter XII, "National Archives and Records Administration," subchapter B. "Records Management," current edition; (b) DoD 5025.1-M, "DoD Directives System Procedures," August 1994, authorized by DoD Directive 5025.1, June 24, 1994; (c) Chapters 29, 31, 33 and 35 of title 44, United States Code (USC).

DoD Directive dated April 11, 1997, DoD Records Management Program. From this directive a standard, DoD 5015.2-STD, was developed and issued, titled, "Design Criteria Standard for Electronic Records Management Software Applications, dated November 1997, issued by ASD C3I. This Standard is issued under the authority of DoD Directive 5015.2, "Department of Defense Records Management Program," April 11, 1997, which provides implementing and procedural guidance on the management of records in the DoD. This Standard sets forth mandatory baseline functional requirements for RMA software used by DoD Components in the implementation of their records management programs; defines required system interfaces and search criteria to be supported by the RMAs; and describes the minimum records management requirements that must be met, based on current NARA regulations.

DoD 5200-1R Information Security Program Regulation

A45

Security regulation from DoD that regulates the process of classification and declassification of records, governs the DoD Information Security Program.

DoD Policy

A0 / A1 / A2 / A3 / A4 / A41 / A42 / A43 / A44 / A415

Information that governs DoD operations, activities and missions. This includes policy, guidelines and directives as issued from the Joint Community, through agencies such as DISA.

Draft Lessons Learned Document

A45

Lessons learned document that has not yet been signed by the Director, CALL or his designee. These draft lessons learned documents require a security classification quality review prior to finalization.

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Draft MOU

A411

A draft form of a Memorandum of Understanding (Agreement) which is a written agreement between agencies which is like a contract and that defines the purpose, scope and responsibilities of all parties in regards to an activity of interest to all parties.

EDRM

A4 / A41 / A43 / A45

Enterprise Document and Record Management will be the policy by which the DoD will develop lifecycle electronic documents, records and information management policies and standards for the DoD, the Joint community and the Services. The EDRM Integrated Product Team (IPT) working group will also serve as the mechanism for the export of DITT-developed technologies and methodologies.

Electronic Document Management System

A412 / A413 / A414 / A416

Management system that allows for the capture and movement of documents regardless of media. Also captures or receives metrics for report and listing generation. Examples of document management reports would be records/documents received, processing and handling metrics, documents uploaded, online. Examples of listings are transfer/retirement listing and processing status list.

ENHANCE VIRTUAL RESEARCH LIBRARY

A4 (A43)

Improve the functionality of the VRL by implementing new or advanced capabilities and technologies and ensure interoperability.

Enhanced Tool

A41 / A42 / A43 / A44 / A45

Improvement on or replacement of a tool for the purpose of improving the functionality of the VRL or associated systems.

ENSURE INTEROPERABILITY

A43 (A433)

Make certain that the VRL abides by recognized functional and technical standards that make possible interoperability with other systems.

EO 12958

A414 / A415

Presidential Executive Order 12958, Classified National Security Information, dated April 17, 1995.

This order prescribes a uniform system for classifying, safeguarding and declassifying national security information. Our democratic principles require that the American people be informed of the activities of their Government.

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Executive Directive

A41 / A45

Presidential Order issued to the executive branch of the federal government.

Historian

A413

The historian examines the structure and background of either the creator or custodian of a body of records (military organization, actual operation) in order to devise a hierarchical or structured arrangement for those documents/records.

Information Request Response

A0 / A1 / A2 / A3 / A4 / A44

A response to an inquiry drawing on resources in the VRL and other available information sources.

Information Technology Specialist

A413 / A414 / A415

Specialist in information technology disciplines such as system engineers for designing and developing applications, hardware engineers for determining size and types of technology required, network engineers for developing and fielding communications infrastructure, system and network administrators to performance tune and maintain system availability.

Lessons Learned Record

A1 / A4 / A41

Record created and collected in support of the development of lessons learned

Lessons Learned Observation - CALL Collection and Observation Management (CALLCOM) observations, source materials collected by Combined Arms Assessment Team (CAAT) Teams, Initial Impression Reports (IIRs)

Lessons Learned Product - TTPs, Combined Training Center (CTC) Bulletins, CTC Handbooks, News from the Front, BCTP Perceptions, Foreign Military Studies Office (FMSO) publications and other special publications

Lessons Learned Administrative Management Document - all office documentation that would be kept for long-term storage i.e. MOUs, Decision Papers, CAAT information

Lexicographer

A413

This specialty role researches, receives and adds new terms, abbreviations and definitions and conducts research to populate the VRL Thesaurus. Perceived terms, abbreviations and definitions are also generated by this specialty.

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Logging Metrics

A412

Metrics and statistics collected and generated by the process of receipt, checking in documents and records, creating inventories, accountability, placement onto processing systems and tasking.

MANAGE REPOSITORY

A41 (A415)

Ensure that document or record is controlled to ensure its authenticity and completeness (e.g. contains all of the parts of the document or record and all metadata). Perform tasks that ensure appropriate disposition

MOU

A0 / A1 / A2 / A3 / A4 / A41

Memorandum of Understanding (Agreement) is a written agreement between agencies which is like a contract and that defines the purpose, scope and responsibilities of all parties in regards to an activity of interest to all parties.

NARA Policy

A0 / A2 / A4 / A41 / A43 / A44

A comprehensive policy covering electronic lifecycle records management that will incorporate concepts such as a new style affiliate archives and electronic documents as electronic new original records.

NATO Regulations

A412 / A413 / A414 / A416

Regulations governing the specialized handling, storage, dissemination and disposition of NATO classified documents and records.

<http://hq.nato.int/archives/room.htm>

New Thesaurus Terms

A41 / A44 / A413

Add to the existing thesaurus new words and expressions.

Non-compliant Document/Record

A412

Documents/records acquired which do not meet the criteria established by the Remote Processing Procedures

Non-processed Record

A412 / A416

Documents or records that are received but not processed, e.g. duplicates, out of mission scope. The non-processed record is transferred as a redirected document/record.

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Operational Environment Record

A413

Important records acquired or received from an operational environment short-term repository with minimum metadata. Metadata will be augmented and lifecycle management applied within the VRL.

PERFORM CLASSIFICATION QUALITY REVIEW

A45 (A453)

Apply automated and semi-automated processes based upon the interpretation of original classification guidance documents or original classification guidance to publish unclassified documents to include CALL publications.

PERFORM CONVERSION

A413 (A4132)

Convert a document from analog to digital, digital to digital to include creation of a preservation format (e.g. SGML, tiff, migrate native formats forward), creation of dissemination formats (e.g. Portable Document Format (PDF), HTML) and the creation of working copy for all pure electronic documents

PERFORM DISASTER RECOVERY

A42 (A423)

Perform backup to ensure the ability to restore data either at site or at a different site due to system failure, natural disaster or sabotage.

PERFORM PHYSICAL SECURITY

A45 (A454)

Ensure up controls, such as locks, passwords, alarms, end of day checks and SOPs to protect equipment and information from unauthorized access are present.

PERFORM QUALITY ASSURANCE

A413 (A4135)

Verify availability and accessibility for VRL contents (web products, web documents, resource links, search and retrieval tools and long-term repository contents).

PERFORM SYSTEM DAY-TO-DAY FUNCTIONS

A42 (A422)

Perform activities associated with the operation of system to include user accounts, passwords, system security and accessibility.

PERFORM SYSTEM MAINTENANCE

A42 (A421)

Tune the system to improve response to users and to meet resource constraints.

PERFORM VIRUS CHECK

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A412 (A4122)

Check all documents for known viruses before assignment to processors.

PREPARE RESEARCH PRODUCT

A44 (A443)

Prepare original written reports based on analysis of research of the CALL VRL to answer requests for information from government and non-government sources or based on a perceived need for information.

Preservation Management Application

A412 / A414 / A415

Application that accepts and preserves the official record copy of any documents deemed record copy by the CALL or a CALL representative

PRESERVE DOCUMENT/RECORD

A41 (A414)

Receive processed record or document, place in preservation repository, make available the dissemination document. Generate capture and make available preservation metrics to senior CALL managers.

Preserved Document

A414 / A415

A document that has been processed and is ready to be managed and to be made available

Procedures Team

A411

Created by task force of Technicians, Information Technology Specialist, Information Security Specialist, Records Manager, System Administrator - known as the Standards Team

PROCESS ACQUISITION

A4 (A41)

Add value to an acquired document or record for inclusion in the VRL.

PROCESS DOCUMENT/RECORD

A41 (A413)

Add value to a document or record for inclusion in the VRL. This includes assigning attributes for creation and augmentation, classification verification, paper preparation for conversion, preservation and dissemination conversion, tasking and time tracking.

Process Request for Enhancement

A41 / A43

Identified need for improvement on or replacement of a tool, component or system, for the purpose of improving the functionality of the VRL or associated systems.

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Processed Document

A413 / A414

Value added (metadata, organizational arrangement) document for inclusion in the VRL, could have both preservation and dissemination formats at this point.

Processed Record

A413 / A414

An acquired record that has been fully processed which includes metadata from the operational and enterprise environment, migration formats and archival formats.

Processing Procedures

A411 / A412 / A413 / A414 / A416

Guidelines for both internal and remote processor customers that will direct the processing of records/documents prior to acceptance into the VRL

PROVIDE ADVANCED CAPABILITIES

A43 (A432)

Implement new or improved capabilities that enhance the functionality of the VRL these include search and retrieval, restructuring or quality improvement of contents.

PROVIDE VIRTUAL RESEARCH LIBRARY

A0 (A4)

Acquire, process, store, manage and make available information, documents and records from multiple sources that are considered of importance to the Army and the US military in a long-term electronic repository. This includes providing and continuing to improve, links to useful resources and search/retrieval tools that access this data through the use of internet technologies and interfaces to the repository user.

Receipt Notification

A412 / A413 / A414

Automatic receipt notification that is generated for all remote processed documents and operational environment records upon introduction into the MAKE DOCUMENT/RECORD AVAILABLE activity.

NOTE: This is to keep the work from stopping at one position and being held up due to personnel, non-automated workflow etc. Within the automated workflow the receipt of these types of records should be the trigger to start an automated workflow, as most of the steps underneath the RECEIVE DOCUMENT/RECORD activity do not apply to these types of records. For example, opening and verifying components disappears, registering documents is automatic, virus check could be automated and depending on the template used appending records management metadata could be automated as well.

RECEIVE DOCUMENT/RECORD

A41 (A412)

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Receive and account for an acquired record or document for input into the VRL, so that life-cycle management for that record can be implemented.

Received Acquisition

A412 / A413

Documents/records received for processing into the VRL.

Records Management Application

A415

A software application that controls the life-cycle management to include access, control, on-line management and contains rule sets for determining disposition and records classification.

Records Management Specialist

A413 / A414 / A415 / A416

Role responsible for the life-cycle management of documents/records received by the Research Division regardless of media. Also responsible for retirement/transfer of processed and unprocessed records, acquisition of records, creating and managing workflow against acquired records/documents.

Redirected Acquired Non-CALL Document/Record

A0 / A2 / A4 / A41 / A416

Non-CALL documents returned to original source or retired to a Federal Records Center (NARA facility).

Includes documents or records that are received but not processed. They are transferred as a redirected non-CALL document/record.

REGISTER ACQUISITION

A412 (A4121)

Log in all documents and records received, this includes creation of receipt log, allows for population of certain metadata elements, notification to management of new records received and how this impacts priority decisions.

Assign the correct workflow to the acquisition, either an ad-hoc workflow or a complex workflow.

Remote Processed Object

A414

Documents or records processed off-site according to CALL Processing Standards with full metadata attached, uploaded directly into the CALL VRL. An automated receipt is generated and quality assurance process is the only activity required by CALL.

Remote Processing Procedures

A0 / A4 / A41 / A411

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CALL created standard and guidelines for converting, handling, creating preservation and dissemination formats and their respective metadata. This standard also includes procedures for operating and utilizing the remote processing tools. Remote processing tools, currently GOTS products are also deployed to the remote processors.

Repository Response for Information

A41 / A44 / A415

Response to a query of the VRL by personnel internal to CALL in pursuit to internal and external information requirements.

Request for Information

A0 / A1 / A2 / A3 / A4 / A41 / A44 / A415

An inquiry seeking assistance in answering a question.

Request for Review

A41 / A45

Request from a CALL division to review a document for security classification, supplemental markings, for public release.

RESEARCH ADVANCED TECHNOLOGY

A43 (A431)

Research, evaluate, buy, design, build and test improved technologies that will enhance the functionality of the VRL this includes web servers, search engines, relational database management system (RDBMS), file format migration, storage technology.

Research Request for Enhancement

A43 / A44

Identified need for improvement on or replacement of a tool, component or system, for the purpose of improving the functionality of the VRL or associated systems.

Research Request for Information

A41 / A44

A query of the VRL by personnel internal to CALL in pursuit of internal and external information requirements.

RESEARCH RFI

A44 (A442)

Conduct research using the capabilities of the CALL VRL to answer requests for information from government and non-government sources to include intergovernmental request, FOIA, Privacy Act and on-line request.

Research Supporting Technology

A44

Various technologies or methodologies that enable the researcher to locate and access needed information.

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RESEARCH VIRTUAL RESEARCH LIBRARY

A4 (A44)

Conduct research using the capabilities of the CALL VRL to answer requests for information from government and non-government sources.

Resources

A0 / A1 / A2 / A3 / A4 / A41 / A42 / A43 / A44 / A45

Personnel, equipment, technology, facilities, supplies, funds, intellectual properties, etc.

Retired Record

A0 / A4 / A41 / A416

Official record copy regardless of media that is retired to an approved NARA facility based on disposition.

Note: The process for retirement of ARMY records is governed by MARKS. The first step is to create the SF 135 that will be the first step in the process. It states that all retired records must be inventoried to the folder level, no mixed classification of records, the outside of the retirement boxes must be marked with the disposition of the records, the acquisition number (from NARA), a copy of the SF135 and appropriate security documentation. Legal sized documents must be within a box but the entire box must contain the legal sized documents. When sending to NARA the box must be at least 3/4 full as well. Mailing procedures for classified materials must be followed when sending to NARA. Once the records are retired to a NARA facility a copy is sent to the originator of the records or whomever CALL acquired the documents/records from.

REVIEW DOCUMENT

A413 (A4131)

Review records/documents and assign structural or hierarchical arrangement. Review for completeness of content. Review/determine file format. Inspect for security classification, supplemental markings and privacy act information and remark as needed.

Security Approved Document

A42 / A45

Derivate document reviewed by the Information Security Specialist for classification determination

Security Guidance

A41 / A45

Policy and procedure created by the Information Security Specialist that affects the processing and procedures used for PROCESS ACQUISITION. Security classification and handling guidance on how to process certain types of documents.

Security Request for Enhancement

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A43 / A45

Request made by the Information Security Specialist to enhance the security measures/guidance for the VRL

SEND DOCUMENT/RECORD TO PRESERVATION REPOSITORY

A413 (A4136)

Distribute preservation format and associated metadata to preservation management system. Distribute dissemination format and associated metadata (metatags) to a distribution access point

Supporting Security Technology

A45

Technologies that support both tracking and version control of classified records and documents and the semi-automated and automated redaction of classified records and documents in support of declassification and downgrading functions.

System Metrics

A414

Capture, store and report of various VRL content metrics, such as what's new, amounts, exception reporting and processing times.

System Request for Enhancement

A42 / A43

Software/Hardware identified by the systems group that will increase the functionality of the VRL.

Technology Research Tool

A43

Various technologies or methodologies that enable the information technology specialist to locate and access needed information for the purpose of designing, buying, building and implementing new or advanced technologies that will increase the functionality of the VRL. .

Transfer/Retire Metrics

A416

These metrics include: amount of boxes/documents ready for retirement, when reports sent to NARA for guidance to retirement, date of actual retirement, amount of documents transferred to originating organization and/or person received from and report back to originating organization.

Check out for the amount of records ready for transfer/retirement for use by management for analysis or reporting functions.

TRANSFER/RETIRE RECORD

A41 (A416)

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Transfer documents or records to originator or designated recipient. Retire records regardless of media to a NARA approved facility.

Transferable Document/Record

A414 / A416

A transferred CALL record or retired type of records

Transferred CALL Record

A0 / A2 / A4 / A41 / A416

Transferred or retired CALL business process record (to include electronic) to an approved Army repository or NARA facility.

Note: To transfer a record the only requirement is that the box is inventoried and appropriate documentation be completed if the transfer is classified. If the box is not classified then the inventory is placed within the box and sent back to the originator.

Updated CALL Virtual Research Library

A0 / A4 / A42

Added, removed or upgraded advanced tools and processed documents that are of importance to the Army and the US military.

VERIFY ACQUISITION COMPONENTS

A412 (A4123)

Open and verify that all components of the acquisition have been received. Troubleshoot any components not received, if stated in procedures return acquisition to originator or attempt to acquire missing components.

Virtual Research Library Recovery Data

A0 / A4 / A42

Procedures and electronic media used to recreate the VRL system and contents in its entirety.

Workflow Application

A412

A software application that enables sequential or parallel processes to be launched, complex or ad hoc workflows to be generated and metrics to be created, captured and generated in report formats.

Workflow Metrics

A413

Mechanism to provide statistics on how long it takes to task out the processing, track stages of processing, track time it takes to perform the stages and show when processing is complete.

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3.3 AS-IS to TO-BE Model Mapping

The following two tables summarize the activity and ICOM transition from the AS-IS to the TO-BE model.

3.3.1 Activity AS-IS to TO-BE Matrix

Activity Name	Activities		Explanation
	IDEF0 AS-IS Workshop	IDEF0 TO-BE Workshop	
A4 PROVIDE CALL DB	X		Changed to PROVIDE VIRTUAL RESEARCH LIBRARY
A4 PROVIDE VIRTUAL RESEARCH LIBRARY		X	Changed from PROVIDE CALL DB
A41 PROCESS ACQUISITION	X	X	Unchanged
A411 RECEIVE ACQUISITION	X		Decomposition of PROCESS ACQUISITION
A412 PREPARE ACQUISITION	X		Decomposition of PROCESS ACQUISITION
A413 TRANSFER ELECTRONIC ACQUISITION	X		Decomposition of PROCESS ACQUISITION
A414 TRANSFER OR RETIRE HARD-COPY DOCUMENT/RECORD	X		Decomposition of PROCESS ACQUISITION
A411 CREATE PROCESSING PROCEDURES		X	Decomposition of PROCESS ACQUISITION
A412 RECEIVE DOCUMENT/RECORD		X	Decomposition of PROCESS ACQUISITION
A4121 REGISTER ACQUISITION		X	Decomposition of RECEIVE DOCUMENT/RECORD
A4122 PERFORM VIRUS CHECK		X	Decomposition of RECEIVE DOCUMENT/RECORD
A4123 VERIFY ACQUISITION COMPONENTS		X	Decomposition of RECEIVE DOCUMENT/RECORD
A4124 APPEND RECORDS MANAGEMENT METADATA		X	Decomposition of RECEIVE DOCUMENT/RECORD
A413 PROCESS DOCUMENT/RECORD			Decomposition of PROCESS ACQUISITION
A4131 REVIEW DOCUMENT		X	Decomposition of PROCESS DOCUMENT/RECORD
A4132 PERFORM CONVERSION		X	Decomposition of PROCESS DOCUMENT/RECORD
A4133 ADD METADATA		X	Decomposition of PROCESS DOCUMENT/RECORD
A4134 ASSEMBLE DOCUMENT		X	Decomposition of PROCESS DOCUMENT/RECORD
A4135 PERFORM QUALITY ASSURANCE		X	Decomposition of PROCESS DOCUMENT/RECORD
A4136 SEND DOCUMENT/RECORD TO PRESERVATION REPOSITORY		X	Decomposition of PROCESS DOCUMENT/RECORD
A414 PRESERVE DOCUMENT/RECORD		X	Decomposition of PROCESS ACQUISITION

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A415 MANAGE REPOSITORY		X	Decomposition of PROCESS ACQUISITION
A416 TRANSFER/RETIRE RECORD		X	Decomposition of PROCESS ACQUISITION
A42 ADMINISTRATE CALL DB	X		Changed to ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM
A42 ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM		X	Changed from ADMINISTRATE CALL DB
A421 UPLOAD NEW DOCUMENT/RECORD	X		Decomposition of ADMINISTRATE CALL DB
A422 INDEX NEW DOCUMENT/RECORD	X		Decomposition of ADMINISTRATE CALL DB
A423 CORRECT ERRORS	X		Decomposition of ADMINISTRATE CALL DB
A424 CORRECT HIERARCHICAL STRUCTURE	X		Decomposition of ADMINISTRATE CALL DB
A425 CONDUCT BACKUP	X		Decomposition of ADMINISTRATE CALL DB
A421 PERFORM SYSTEM MAINTENANCE		X	Decomposition of ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM
A422 PERFORM SYSTEM DAY-TO-DAY FUNCTIONS		X	Decomposition of ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM
A423 PERFORM DISASTER RECOVERY		X	Decomposition of ADMINISTRATE VIRTUAL RESEARCH LIBRARY SYSTEM
A43 ENHANCE CALL DB	X		Changed to ENHANCE VIRTUAL RESEARCH LIBRARY
A43 ENHANCE VIRTUAL RESEARCH LIBRARY		X	Changed from ENHANCE CALL DB
A431 DETERMINE NEW REQUIREMENT	X		Decomposition of ENHANCE CALL DB
A432 RESEARCH POTENTIAL SOLUTIONS	X		Decomposition of ENHANCE CALL DB
A433 SELECT SOLUTION	X		Decomposition of ENHANCE CALL DB
A434 IMPLEMENT SOLUTION	X		Decomposition of ENHANCE CALL DB
A431 RESEARCH ADVANCED TECHNOLOGY		X	Decomposition of ENHANCE VIRTUAL RESEARCH LIBRARY
A432 PROVIDE ADVANCED CAPABILITIES		X	Decomposition of ENHANCE VIRTUAL RESEARCH LIBRARY
A433 ENSURE INTEROPERABILITY		X	Decomposition of ENHANCE VIRTUAL RESEARCH LIBRARY
A44 RESEARCH CALL DB	X		Changed to RESEARCH VIRTUAL RESEARCH LIBRARY
A44 RESEARCH VIRTUAL RESEARCH LIBRARY		X	Changed from RESEARCH CALL DB
A441 UPDATE CALL THESAURUS	X		Decomposition of RESEARCH CALL DB
A442 CREATE RESEARCH PRODUCTS	X		Decomposition of RESEARCH CALL DB
A443 RESPOND TO RFI	X		Decomposition of RESEARCH CALL DB
A441 CONDUCT REACHBACK		X	Decomposition of RESEARCH VIRTUAL RESEARCH LIBRARY
A442 RESEARCH RFI		X	Decomposition of RESEARCH VIRTUAL RESEARCH LIBRARY
A443 PREPARE RESEARCH PRODUCT		X	Decomposition of RESEARCH VIRTUAL RESEARCH LIBRARY

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A45 CONDUCT INFORMATION SECURITY	X	X	Unchanged
A451 CONDUCT SECURITY DECLASSIFICATION	X		Decomposition of CONDUCT INFORMATION SECURITY
A452 IDENTIFY SECURITY CLASSIFICATION LEVEL	X		Decomposition of CONDUCT INFORMATION SECURITY
A453 PERFORM PHYSICAL SECURITY	X		Decomposition of CONDUCT INFORMATION SECURITY
A454 REDACT DOCUMENT	X		Decomposition of CONDUCT INFORMATION SECURITY
A451 DOWNGRADE RECORDS		X	Decomposition of CONDUCT INFORMATION SECURITY
A452 DECLASSIFY RECORDS		X	Decomposition of CONDUCT INFORMATION SECURITY
A453 PERFORM CLASSIFICATION QUALITY REVIEW		X	Decomposition of CONDUCT INFORMATION SECURITY
A454 PERFORM PHYSICAL SECURITY		X	Decomposition of CONDUCT INFORMATION SECURITY

3.3.2 ICOM AS-IS to TO-BE Matrix

ICOMs			
ICOM Name	IDEF0 AS-IS Workshop	IDEF0 TO-BE Workshop	Explanation
ABCA Policy	X		
Acquired Document/Record	X	X	Unchanged
Acquisition MOU	X	X	Unchanged
Acquisition Recommendation		X	Added
ADC System	X		
AR 11-33 Army Lessons Learned Program	X	X	Split from Army Policy
AR 25-1 Army Information resources Management Program	X	X	Split from Army Policy
AR 25-55 Army FOIA Act	X		Split from Army Policy
AR 340-21 Army Privacy Act Program	X	X	Split from Army Policy
AR 380-5 Department of the Army Information Security Program		X	Split from Army Policy
AR 380-19 Information Systems Security	X	X	Split from Army Policy
AR 870-5 Army History Program	X	X	Split from Army Policy
Archives Technician		X	Split from Resources
Army Policy	X	X	Unchanged
CALLThesaurus		X	Split from Resources
CALL Virtual Research Library Metrics		X	Added
Centralized Procedures Repository		X	Split from Resources
Classification Review System		X	Split from Resources
Classified Open Storage Area	X		
Conversion Tools		X	Split from Resources
Core CALL DB System	X		
Core Virtual Research Library System		X	Split from Resources

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Corrected Document/Record	X		
CTC Access Policy	X		
Customer Service Request		X	Split from Request for Information
DoD 5015.2	X	X	Split from DoD Policy
DoD 5200-1R		X	Split from DoD Policy
DoD ADC Master Plan	X		
DoD Policy	X	X	Unchanged
DOIM Special Projects	X		Split from Resources
Draft Lessons Learned Document		X	Split from Acquired Document/Record
Draft MOU		X	Added
EDRM		X	Split from DoD Policy
Electronic Document Management System		X	Split from Resources
Enhanced Tool		X	Changed from Updated Core CALL DB System
EO 12958		X	Split from Executive Directive
Executive Directive	X	X	Unchanged
Historian		X	Split from Resources
Information Request Response	X	X	Unchanged
Information Systems Division	X		
Information Technology Specialist		X	Split from Resources
Lessons Learned Record		X	Added
Lexicographer		X	Split from Resources
Logging Metrics		X	Join with CALL Virtual Research Library Metrics
MARKS	X		Changed to EDRM
Mismarked Document/Record	X		
MOU	X	X	Unchanged
NARA Policy		X	Added
NATO Regulations		X	Split from DoD Policy
New Thesaurus Terms		X	Added
Non-compliant Document/Record		X	Split from Acquired Document/Record
Non-processed Record		X	Added
Operational Environment Record		X	Split from Acquired Document/Record
Preservation Management Application		X	Split from Resources
Preserved Document		X	Added
Procedures Team		X	Split from Resources
Process Request for Enhancement		X	Added
Processed Document		X	Changed from Processed Document/Record
Processed Document/Record	X		Changed to Processed Document and Processed Record
Processed Record		X	Changed from Processed Document/Record
Processing Procedures		X	Added
Receipt Notification		X	Added
Received Acquisition		X	Added
Records Management Application		X	Split from Resources
Records Management Specialist		X	Split from Resources

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Redirected Acquired Non-CALL Document/Record	X	X	Renamed from Redirected Non-CALL Acquired Document/Record
Remote Processed Object		X	Split from Acquired Document/Record
Remote Processing Procedures		X	Added
Repository Response for Information		X	Added
Request for Information	X	X	Unchanged
Request for Review		X	Added
Research Division	X		
Research Request for Enhancement		X	Added
Research Request for Information		X	Added
Research Supporting Technology		X	Added
Resources	X	X	Unchanged
Retired Record		X	Added
Security Approved Document		X	Added
Security Guidance		X	Added
Security Request for Enhancement		X	Added
Successful Upload Notification	X		
Supporting Security Technology		X	Split from Resources
System Enhancement Request	X		
System Metrics		X	Added
System Request for Enhancement		X	Added
System Upgrade Need	X		
Technology Research Tool		X	Split from Resources
Transfer/Retire Metrics		X	Join with CALL Virtual Research Library Metrics
Transferable CALL Record	X		Changed to Transferable Document/Record
Transferable Document/Record		X	Changed from Transferable CALL Record
Transferred CALL Record	X	X	Unchanged
Updated CALL Virtual Research Library		X	Changed from Updated CALL Virtual Research Library
Updated CALL DB	X		Changed to Updated Virtual Research Library
Updated Core CALL DB System	X		Changed to Enhanced Tools
Updated Lessons Learned CALL DB Document	X		
Virtual research Library Recovery Data		X	Added
Workflow Application		X	Split from Resources
Workflow Metrics		X	Join with Virtual Research Library Metrics

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4. Data Modeling

The IDEF1X modeling language (semantics and syntax), and associated rules and techniques, for developing a logical model of data. IDEF1X is used to produce a graphical information model that represents the structure and semantics of information within an environment or system. Use of this standard permits the construction of semantic data models that may serve to support the management of data as a resource, the integration of information systems, and the building of computer databases.

Data identification will be performed in the Use Case development during the OO modeling and development phase.

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Appendix A – AS-IS Workshop Participants

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Appendix B – Decision Matrices

	High potential for successful implementation	Mission importance	Greatest external political impact	Willing candidates for internal change	Greatest functional impact	Total	Mean	STD
A41 PROCESS ACQUISITION	4	4.14	3.29	4.29	4.43	20.14	4.03	0.44
A43 ENHANCE VRL	3.14	3.43	3.71	3	3.29	16.57	3.31	0.27
A45 CONDUCT INFORMATION SECURITY	3.14	2.57	2.86	3.43	3.14	15.14	3.03	0.33
A42 ADMINISTRATE VRL SYSTEM	2.86	2.43	1.71	2.57	2	11.57	2.31	0.46
A44 RESEARCH VRL	1.86	2.43	3.43	1.71	2.14	11.57	2.31	0.68
Total	15	15	15	15	15			
Mean	3	3	3	3	3			
STD	0.77	0.76	0.78	0.96	0.98			

High potential for successful implementation	1	2	3	4	5	Total	Mean	STD
A41 PROCESS ACQUISITION	1	1			5	28	4	1.73
A43 ENHANCE VRL	1	1	2	2	1	22	3.14	1.35
A45 CONDUCT INFORMATION SECURITY	1	1	2	2	1	22	3.14	1.35
A42 ADMINISTRATE VRL SYSTEM	1	2	1	3		20	2.86	1.21
A44 RESEARCH VRL	3	2	2			13	1.86	0.9
Mission importance	1	2	3	4	5	Total	Mean	STD
A41 PROCESS ACQUISITION		1		3	3	29	4.14	1.07
A43 ENHANCE VRL	1	2		1	3	24	3.43	1.72
A45 CONDUCT INFORMATION SECURITY	2		4	1		18	2.57	1.13
A44 RESEARCH VRL	1	3	2	1		17	2.43	0.98
A42 ADMINISTRATE VRL SYSTEM	3	1	1	1	1	17	2.43	1.62
Greatest external political impact	1	2	3	4	5	Total	Mean	STD
A43 ENHANCE VRL	1	1		2	3	26	3.71	1.6
A44 RESEARCH VRL	1		2	3	1	24	3.43	1.27
A41 PROCESS ACQUISITION	1	1	2	1	2	23	3.29	1.5
A45 CONDUCT INFORMATION SECURITY	1	2	2	1	1	20	2.86	1.35
A42 ADMINISTRATE VRL SYSTEM	3	3	1			12	1.71	0.76
Willing candidates for internal change	1	2	3	4	5	Total	Mean	STD
A41 PROCESS ACQUISITION	1			1	5	30	4.29	1.5
A45 CONDUCT INFORMATION SECURITY	1		2	3	1	24	3.43	1.27
A43 ENHANCE VRL	1	2	1	2	1	21	3	1.41
A42 ADMINISTRATE VRL SYSTEM	1	2	3	1		18	2.57	0.98
A44 RESEARCH VRL	3	3	1			12	1.71	0.76
Greatest functional impact	1	2	3	4	5	Total	Mean	STD
A41 PROCESS ACQUISITION		1		1	5	31	4.43	1.13

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A43 ENHANCE VRL	1	2		2	2	23	3.29	1.6
A45 CONDUCT INFORMATION SECURITY	1		3	3		22	3.14	1.07
A44 RESEARCH VRL	2	3	1	1		15	2.14	1.07
A42 ADMINISTRATE VRL SYSTEM	3	1	3			14	2	1

	High potential for successful implementation	Mission importance	Greatest external political impact	Willing candidates for internal change	Greatest function al impact	Total	Mean	STD
A411 CREATE PROCESSING STANDARD	3.6	3.4	3	3	3.2	16.2	3.24	0.26
A412 RECEIVE DOCUMENT/RECORD	3.2	2.4	2.2	3.4	2.8	14	2.8	0.51
A413 PROCESS DOCUMENT/RECORD	4.2	4.6	4	4.4	4.4	21.6	4.32	0.23
A414 PRESERVE DOCUMENT/RECORD	2.8	3.4	4.2	3	3.4	16.8	3.36	0.54
A415 TRANSFER/RETIRE RECORD	1.2	1.2	1.6	1.2	1.2	6.4	1.28	0.18
Total	15	15	15	15	15			
Mean	3	3	3	3	3			
STD	1.13	1.27	1.12	1.16	1.17			

High potential for successful implementation	1	2	3	4	5	Total	Mean	STD
A413 PROCESS DOCUMENT/RECORD			1	2	2	21	4.2	0.84
A411 CREATE PROCESSING STANDARD		1	1	2	1	18	3.6	1.14
A412 RECEIVE DOCUMENT/RECORD	1		2	1	1	16	3.2	1.48
A414 PRESERVE DOCUMENT/RECORD		3	1		1	14	2.8	1.3
A415 TRANSFER/RETIRE RECORD	4	1				6	1.2	0.45
Mission importance	1	2	3	4	5	Total	Mean	STD
A413 PROCESS DOCUMENT/RECORD				2	3	23	4.6	0.55
A411 CREATE PROCESSING STANDARD		1	2	1	1	17	3.4	1.14
A414 PRESERVE DOCUMENT/RECORD		2		2	1	17	3.4	1.34
A412 RECEIVE DOCUMENT/RECORD	1	1	3			12	2.4	0.89
A415 TRANSFER/RETIRE RECORD	4	1				6	1.2	0.45
Greatest external political impact	1	2	3	4	5	Total	Mean	STD
A414 PRESERVE DOCUMENT/RECORD		1		1	3	21	4.2	1.3
A413 PROCESS DOCUMENT/RECORD			1	3	1	20	4	0.71
A411 CREATE PROCESSING STANDARD	1	1	1	1	1	15	3	1.58
A412 RECEIVE DOCUMENT/RECORD	2		3			11	2.2	1.1
A415 TRANSFER/RETIRE RECORD	2	3				8	1.6	0.55
Willing candidates for internal change	1	2	3	4	5	Total	Mean	STD
A413 PROCESS DOCUMENT/RECORD				3	2	22	4.4	0.55
A412 RECEIVE DOCUMENT/RECORD	1		2		2	17	3.4	1.67
A411 CREATE PROCESSING STANDARD		2	1	2		15	3	1
A414 PRESERVE DOCUMENT/RECORD		2	2		1	15	3	1.22
A415 TRANSFER/RETIRE RECORD	4	1				6	1.2	0.45

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Greatest functional impact	1	2	3	4	5	Total	Mean	STD
A413 PROCESS DOCUMENT/RECORD			1	1	3	22	4.4	0.89
A414 PRESERVE DOCUMENT/RECORD		2		2	1	17	3.4	1.34
A411 CREATE PROCESSING STANDARD		2	1	1	1	16	3.2	1.3
A412 RECEIVE DOCUMENT/RECORD	1		3	1		14	2.8	1.1
A415 TRANSFER/RETIRE RECORD	4	1				6	1.2	0.45

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Appendix C – Improvement Opportunity Prioritization Matrices

	High potential for successful implementation	External customer base most affected	Expense to mission goal (bang for the buck)	Most improved efficiency for Internal customer	Total	Mean	STD
Implement Supporting Technology. Document Management System, Workflow system for routing and gather metrics, develop reports.	9.4	7	9.17	9.5	35.07	8.77	1.19
Have acquisitions automatically pushed from short term to long term repository based upon a rule set	8	6	6.5	7.5	28	7	0.91
Re-examine core technology	8	4	8	8	28	7	2
Enhance Automated Document Conversion system	6	7	6.4	7.33	26.73	6.68	0.6
Capture system-generated metadata and auto-populate core CALL DB metadata elements.	7.33	4.5	8	5.6	25.43	6.36	1.6
Allow for the augmentation of metadata for lifecycle management purposes.	5.5	6	7.25	6.33	25.08	6.27	0.74
Enhance the acquisition process so that we can handle any acquisition in an electronic environment	6	5.17	7.5	5.8	24.47	6.12	0.99
Advanced search tools	4.75	7.29	4.33	8	24.37	6.09	1.82
Integrated thesaurus capability	4.6	8.2	5.5	2.67	20.97	5.24	2.3
Test and prototype new processing and conversion technologies.	3.25	5.5	6	5.25	20	5	1.21
Automated detection of possible duplicate records	4.5	5.33	4.5	5	19.33	4.83	0.41
Manage documents/records with RMA	5.33	2.67	6	3.67	17.67	4.42	1.52
Establish a control board and associated process to review and approve changes/enhancements to the system.	7	3	5.5	2	17.5	4.38	2.29
Advanced hierarchical storage system	4	5.33	4	3	16.33	4.08	0.96
Develop 1, 3 and 5 year strategic plans	5	6.33	4.5		15.83	5.28	0.95
Unassisted load and index of CALL DB	4.5	2.33	3.5	5	15.33	3.83	1.18
Auto launch processes that can be unattended.	4		5	6	15	5	1
Develop and implement a central new requirements database/repository.	5		7.5	2	14.5	4.83	2.75
Automate the searching of pure electronic documents for classification markings		7	2.5	5	14.5	4.83	2.25
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and	7	D-2	1.75	4.75	13.5	4.5	2.63

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output the Unclassified metadata and documents/records to the Unclassified CALL DB.							
Begin FOIA answers as per Electronic FOIA act		3.5	5	4	12.5	4.17	0.76
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media.		4	5	3	12	4	1
Capture correction activity as an automated report process.	2		4	4.33	10.33	3.44	1.26
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus.	4	1	4		9	3	1.73
Additional metadata to aid in document search and retrieval		8		1	9	4.5	4.95
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	1	2.5	2	3.5	9	2.25	1.04
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s).	6	3			9	4.5	2.12
Provide auto-feedback to CALL RD regarding # of documents uploaded.	5		2		7	3.5	2.12
Define workflow requirements for the declassification process.	6				6	6	0
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes.	1		2		3	1.5	0.71
Incorporate software tools to assist in redaction				2	2	2	0
Total	134.17	114.65	137.4	120.23			
Mean	5.16	4.98	5.09	4.81			
STD	2.02	2	2.05	2.19			

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High potential for successful implementation	1	2	3	4	5	6	7	8	9	10	Total	Mean	STD
Implement Supporting Technology. Document Management System, Workflow system for routing and gather metrics, develop reports.							1			4	47	9.4	1.34
Capture system-generated metadata and auto-populate core CALL DB metadata elements.				1	1			2	1	1	44	7.33	2.34
Have acquisitions automatically pushed from short term to long term repository based upon a rule set							1	2	1		32	8	0.82
Integrated thesaurus capability	2			1				1	1		23	4.6	3.78
Allow for the augmentation of metadata for lifecycle management purposes.	1		1						2		22	5.5	4.12
Advanced search tools	1	1				1				1	19	4.75	4.11
Enhance Automated Document Conversion system				1			2				18	6	1.73
Unassisted load and index of CALL DB		1	2							1	18	4.5	3.7
Manage documents/records with RMA		1			1				1		16	5.33	3.51
Auto launch processes that can be unattended.		1	1	1			1				16	4	2.16
Develop and implement a central new requirements database/repository.		1			1			1			15	5	3
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB.					1				1		14	7	2.83
Test and prototype new processing and conversion technologies.		1	1	2							13	3.25	0.96
Enhance the acquisition process so that we can handle any acquisition in an electronic environment						2					12	6	0
Define workflow requirements for the declassification process.						2					12	6	0
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s).					1		1				12	6	1.41
Automated detection of possible duplicate records			1			1					9	4.5	2.12
Re-examine core technology								1			8	8	0
Establish a control board and associated process to review and approve changes/enhancements to the system.							1				7	7	0
Capture correction activity as an automated report process.	1	1	1								6	2	1
Develop 1, 3 and 5 year strategic plans					1						5	5	0
Provide auto-feedback to CALL RD regarding # of documents uploaded.					1						5	5	0
Advanced hierarchical storage system				1							4	4	0
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus.				1							4	4	0
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes.	1										1	1	0

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Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	1												1	1	0
Incorporate software tools to assist in redaction															
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media.															
Additional metadata to aid in document search and retrieval															
Begin FOIA answers as per Electronic FOIA act															
Automate the searching of pure electronic documents for classification markings															
External customer base most affected	1	2	3	4	5	6	7	8	9	10	Total	Mean	STD		
Advanced search tools				1	1	2				3	51	7.29	2.63		
Integrated thesaurus capability						1		1	3		41	8.2	1.3		
Enhance the acquisition process so that we can handle any acquisition in an electronic environment		3					1	1		1	31	5.17	3.6		
Enhance Automated Document Conversion system				1			1	1	1		28	7	2.16		
Additional metadata to aid in document search and retrieval							1	1	1		24	8	1		
Have acquisitions automatically pushed from short term to long term repository based upon a rule set	1				1			1		1	24	6	3.92		
Test and prototype new processing and conversion technologies.	1				1	1				1	22	5.5	3.7		
Implement Supporting Technology. Document Management System, Workflow system for routing and gather metrics, develop reports.			1					1		1	21	7	3.61		
Develop 1, 3 and 5 year strategic plans			1				1		1		19	6.33	3.06		
Allow for the augmentation of metadata for lifecycle management purposes.				1	1				1		18	6	2.65		
Advanced hierarchical storage system				1	1		1				16	5.33	1.53		
Automated detection of possible duplicate records			1		1			1			16	5.33	2.52		
Re-examine core technology		1		1		1					12	4	2		
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media.	1			1			1				12	4	3		
Capture system-generated metadata and auto-populate core CALL DB metadata elements.			1			1					9	4.5	2.12		
Manage documents/records with RMA	2					1					8	2.67	2.89		
Automate the searching of pure electronic documents for classification markings							1				7	7	0		
Begin FOIA answers as per Electronic FOIA act		1			1						7	3.5	2.12		
Unassisted load and index of CALL DB		2	1								7	2.33	0.58		
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	1			1							5	2.5	2.12		
Establish a control board and associated process to review and approve changes/enhancements to the system.			1								3	3	0		
Develop standardized metadata for declassification process and determine which elements must be			1								3	3	0		

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transferred to the CALL DB for search, retrieval and long-term management with the respective version(s).														
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus.	1											1	1	0
Incorporate software tools to assist in redaction														
Develop and implement a central new requirements database/repository.														
Auto launch processes that can be unattended.														
Capture correction activity as an automated report process.														
Provide auto-feedback to CALL RD regarding # of documents uploaded.														
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes.														
Define workflow requirements for the declassification process.														
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB.														

Expense to mission goal ('bang for the buck')	1	2	3	4	5	6	7	8	9	10	Total	Mean	STD
Implement Supporting Technology. Document Management System, Workflow system for routing and gather metrics, develop reports.							1	1		4	55	9.17	1.33
Capture system-generated metadata and auto-populate core CALL DB metadata elements.					1			1	1	1	32	8	2.16
Enhance Automated Document Conversion system	1					1	1	1		1	32	6.4	3.36
Allow for the augmentation of metadata for lifecycle management purposes.		1							3		29	7.25	3.5
Have acquisitions automatically pushed from short term to long term repository based upon a rule set		1					1	1	1		26	6.5	3.11
Test and prototype new processing and conversion technologies.			1			1	1	1			24	6	2.16
Integrated thesaurus capability			1	1		1			1		22	5.5	2.65
Develop and implement a central new requirements database/repository.							1	1			15	7.5	0.71
Enhance the acquisition process so that we can handle any acquisition in an electronic environment						1			1		15	7.5	2.12
Auto launch processes that can be unattended.			1		1		1				15	5	2
Unassisted load and index of CALL DB	1		1	1		1					14	3.5	2.08
Advanced search tools	1	1								1	13	4.33	4.93
Manage documents/records with RMA					1		1				12	6	1.41
Establish a control board and associated process to review and approve changes/enhancements to the system.					1	1					11	5.5	0.71
Automated detection of possible duplicate records				1	1						9	4.5	0.71
Develop 1, 3 and 5 year strategic plans			1			1					9	4.5	2.12
Re-examine core technology								1			8	8	0

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Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB.	2	1	1									7	1.75	0.96
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	2			1								6	2	1.73
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media.					1							5	5	0
Begin FOIA answers as per Electronic FOIA act					1							5	5	0
Automate the searching of pure electronic documents for classification markings		1	1									5	2.5	0.71
Advanced hierarchical storage system				1								4	4	0
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus.				1								4	4	0
Capture correction activity as an automated report process.				1								4	4	0
Provide auto-feedback to CALL RD regarding # of documents uploaded.		1										2	2	0
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes.		1										2	2	0
Incorporate software tools to assist in redaction														
Additional metadata to aid in document search and retrieval														
Define workflow requirements for the declassification process.														
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s).														

Most improved efficiency for internal customer	1	2	3	4	5	6	7	8	9	10	Total	Mean	STD
Implement Supporting Technology. Document Management System, Workflow system for routing and gather metrics, develop reports.							1			5	57	9.5	1.22
Have acquisitions automatically pushed from short term to long term repository based upon a rule set						1	1	1	1		30	7.5	1.29
Enhance the acquisition process so that we can handle any acquisition in an electronic environment	1				2				2		29	5.8	3.35
Capture system-generated metadata and auto-populate core CALL DB metadata elements.		2		1						2	28	5.6	4.1
Unassisted load and index of CALL DB			1	2		1		1			25	5	2
Auto launch processes that can be unattended.				1		2		1			24	6	1.63
Enhance Automated Document Conversion system						1	1		1		22	7.33	1.53
Test and prototype new processing and conversion technologies.		1	1					2			21	5.25	3.2
Allow for the augmentation of metadata for lifecycle management purposes.	1								2		19	6.33	4.62
Determine an efficient process to handle and process all incoming documents/records on one system (Secret) and output the Unclassified metadata and documents/records to the Unclassified CALL DB.			1	1	1		1				19	4.75	1.71

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Advanced search tools						1		1			16	8	1.41
Automated detection of possible duplicate records		1			1			1			15	5	3
Capture correction activity as an automated report process.	1				1		1				13	4.33	3.06
Manage documents/records with RMA	1				2						11	3.67	2.31
Automate the searching of pure electronic documents for classification markings				1		1					10	5	1.41
Re-examine core technology								1			8	8	0
Integrated thesaurus capability	1	1			1						8	2.67	2.08
Ability to conduct online, semi-automated and automated redaction/declassification review of standardized documents	1					1					7	3.5	3.54
Begin FOIA answers as per Electronic FOIA act				1							4	4	0
Develop and implement a central new requirements database/repository.	1		1								4	2	1.41
Advanced hierarchical storage system			1								3	3	0
Ensure most recent and requested document/records are on-line by moving old and infrequently accessed documents/records to reside on near-line and off-line storage media.			1								3	3	0
Incorporate software tools to assist in redaction		1									2	2	0
Establish a control board and associated process to review and approve changes/enhancements to the system.		1									2	2	0
Additional metadata to aid in document search and retrieval	1										1	1	0
Develop 1, 3 and 5 year strategic plans													
Automate a workflow process that will provide CALL DB Lexicographer with new terms needed for CALL Thesaurus.													
Provide auto-feedback to CALL RD regarding # of documents uploaded.													
Implement automated workflow for RFI, specifically FOIAs, and gather handling and processing metrics for reporting and analysis purposes.													
Define workflow requirements for the declassification process.													
Develop standardized metadata for declassification process and determine which elements must be transferred to the CALL DB for search, retrieval and long-term management with the respective version(s).													

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Appendix D – Project Plan

At each session the project plan is reviewed for its accuracy and completeness. The reader is advised that the project schedule contained herein is different that project schedules in previous reports and may be different in future reports. A final project schedule detailing the actual activities as they occurred is planned for publishing in the final report scheduled for May 2000.

The following changes were proposed and accepted in migrating from Version 6 (AS-IS Report) to Version 7 (TO-BE Report)

AS-IS Workshop Report	TO-BE Workshop Report	Reason
	Added “% Complete” column.	Better reflect progress versus completion
	Rescheduled remaining work in task #7, Obtain and Review Referenced Documents	To reflect that some documents remain unavailable as of this date
	Set task 8, Generate Review Synopsis, to 50% complete	Depicts work completed and split to show that work remains after receipt and review of remaining documents from task #7
	Set task #12 complete through 1/20/00	To reflect work performed and split task to indicate additional effort remaining
	Tasks #25 through #32, #34 through #38 and #40 set to 100 % complete on schedule	To note work completed
	Changed the duration of task #53 from 4 to 8 days (this impacted start/finish dates for tasks 54 through 58).	Reflects the time needed to migrate to the OO model
Task #66 “DITT To-Be Object Oriented Model Report”	Changed title to “Collaborative Session 3 (DITT TO-BE Object Oriented Development) Final Report”	More accurately reflects final deliverable
Task #76 “System Requirements Review Session”	Change title of task #76 to “Functional and System Requirements Review Session”	More accurately reflects work being accomplished
Task #78 “Generate System Requirements Document	Change title of task #78 to “Generate Functional and System Requirements Document”.	More accurately reflects final deliverable

Principal Milestones

These milestones are extracted from the February DITT Phase 1A – Modeling Schedule. They reflect the scheduled completion dates of major activities within the project.

Id	Task name	Finish
41.	Collaborative Session 2 (IDEF0 To-Be Modeling)	Fri 02/25/00
52.	IDEF0 to OO Migration	Mon 03/20/00
59.	Collaborative Session 3 (OO Modeling)	Tue 04/25/00
74.	Collaborative Session 4 (System Requirements Document)	Fri 05/26/00

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83.	Modeling Planning Meeting (14 & 15)	Fri 05/05/00
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Deliverable Dates

These deliverables are extracted from the February DITT Phase 1A – Modeling Schedule. They reflect the scheduled completion dates of the remaining major deliverables.

Id	Task Name	Finish
50.	Collaborative Session 2 (IDEF0 To-Be Modeling) Final Reports	Fri 02/25/00
57.	IDEF0 to OO Migration Final Report	Mon 03/21/00
66.	Collaborative Session 3 (DITT TO-BE Object Oriented Development) Final Report	Tue 04/25/00
82.	Collaborative Session 4 (System Requirements Document) Final Document	Fri 05/26/00

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Complete DITT Phase 1A - Modeling Schedule, Version 7, As of 04 February 2000

Id	Task Name	% Complete	Duration	Start	Finish	Predecessor	Assigned
1.	Pre Re-Implementation Activities	64%	42d	Fri 11/05/99	Thu 01/20/00		
2.	Identify/Select Group Facilitation Vendor	100%	20d	Fri 11/05/99	Mon 12/06/99		GDIS
3.	Identify Tools for Modeling and Group Facilitation	100%	1d	Tue 12/07/99	Tue 12/07/99	2	GDIS
4.	Identify Resources For Re-evaluation and Modeling	100%	1d	Wed 12/08/99	Wed 12/08/99	3	GDIS
5.	Generate Modeling Tool Information	100%	1d	Tue 12/14/99	Tue 12/14/99	2	GDIS
6.	Reference Document Review	77%	36d	Mon 12/13/99	Wed 02/02/00		
7.	Obtain and Review Referenced Documents	90%	10d	Mon 12/13/99	Mon 01/31/00		GDIS
8.	Generate Review Synopsis	50%	2d	Tue 01/18/00	Tue 02/01/00	7	GDIS
9.	Synopsis Review	0%	1d	Wed 02/02/00	Wed 02/02/00	8	c3risk
10.	Pre Re-Implementation Training Development	91%	78d	Mon 10/25/99	Tue 02/15/00		
11.	IDEF0 Training Prep	100%	10d	Mon 10/25/99	Fri 12/17/99		Andrulis, GDIS
12.	OO Training Prep	80%	10d	Thu 11/18/99	Fri 2/11/00		GDIS
13.	Group Facilitation Techniques and Tools	100%	1d	Fri 12/17/99	Fri 12/17/99	2	Andrulis
14.	Data, Information, Knowledge Briefing (page 4 #4)	100%	2d	Thu 12/09/99	Fri 12/17/99		GDIS
15.	IDEF0 Modeling	60%	48d	Mon 12/20/99	Fri 2/25/00		
16.	Current As-Is Model Assessment & Scoping Session	100%	18d	Mon 12/20/99	Fri 1/14/00		
17.	Analyze "Current" As-Is IDEF0 Model	100%	2d	Mon 12/20/99	Tue 12/21/99		Andrulis, c3risk, GDIS
18.	Generate Scoping Session Report Draft	100%	2d	Wed 12/22/99	Thu 12/23/99	17	Andrulis
19.	Review Scoping Session Report Draft (consultant)	100%	1d	Mon 12/27/99	Mon 12/27/99	18	c3risk, GDIS
20.	Review Scoping Session Report Draft (DCT)	100%	1.5d	Tue 12/28/99	Wed 12/29/99	19	DCT
21.	Review Comment Telecon	100%	1d	Tue 1/4/00	Tue 1/4/00	20	c3risk, DCT, GDIS
22.	Generate Final Scoping Session Report	100%	2d	Wed 1/5/00	Fri 1/14/00	21	c3risk
23.	Generate Briefing on "Current" As-Is IDEF0 Model	100%	2d	Wed 1/5/00	Fri 1/7/00	22SS+1d	GDIS, Andrulis, c3risk
24.	Collaborative Session 1 (IDEF0 As-Is Modeling)	87%	18d	Mon 1/10/00	Wed 2/2/00		
25.	Pre-session Set-up and Review	100%	1d	Mon 1/10/00	Mon 1/10/00		Andrulis, c3risk, GDIS
26.	Group Facilitation Training Session	100%	1h	Tue 1/11/00	Tue 1/11/00	25,13	Andrulis, DCT,c3risk,GDIS
27.	IDEF0 Training Session (1)	100%	2h	Tue 1/11/00	Tue 1/11/00	26,11	Andrulis,c3risk,DCT,GDIS
28.	Briefing on Current As-Is Model (2)	100%	2h	Tue 1/11/00	Tue 1/11/00	23,27	Andrulis,c3risk,DCT,GDIS
29.	Create "CALL Mission" IDEF0 Model (3)	100%	2h	Tue 1/11/00	Tue 1/11/00	28	Andrulis,c3risk,DCT,GDIS
30.	Prioritize "CALL Mission" Model A0 Activities (4)	100%	1h	Tue 1/11/00	Tue 1/11/00	29	Andrulis,c3risk,DCT,GDIS
31.	Create CALL (prioritized A0) As-Is	100%	2d	Wed 1/12/00	Thu 1/13/00	30	Andrulis,c

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Id	Task Name	% Complete	Duration	Start	Finish	Predecessor	Assigned
	IDEF0 Model (5,6,7)						3risk,DCT, GDIS
32.	Post-Session Clean-up	100%	1d	Fri 1/14/00	Fri 1/14/00	31	Andrulis
33.	Generate Session Reports	80%	10d	Thu 1/20/00	Wed 2/2/00		
34.	Draft "CALL Mission" AS-IS IDEF0 Model Report	100%	2d	Thu 1/20/00	Fri 1/21/00	32	c3risk,Andrulis, GDIS
35.	Draft CALL (prioritized A0) AS-IS IDEF0 Model Report	100%	2d	Mon 1/24/00	Tue 1/25/00	34	c3risk,Andrulis, GDIS
36.	Review Draft Reports (consultant)	100%	1d	Wed 1/26/00	Wed 1/26/00	35	c3risk
37.	Review Report Draft (DCT)	100%	2d	Thu 1/27/00	Fri 1/28/00	36	DCT
38.	Review Comment Telecon	100%	1d	Mon 1/31/00	Mon 1/31/00	37	c3risk,DCT, GDIS, Andrulis
39.	Generate Final Reports	0%	2d	Tue 2/1/00	Wed 2/2/00	38	c3risk
40.	Schedule Decision Milestone	100%	1d	Fri 2/4/00	Fri 2/4/00		
41.	Collaborative Session 2 (IDEF0 To-Be Modeling)	0%	15d	Mon 02/07/00	Fri 02/25/00		
42.	Pre-session Set-up and Review	0%	1d	Mon 02/07/00	Mon 02/07/00		Andrulis, c3risk, GDIS
43.	Create (DITT) To-Be IDEF0 Model (8)	0%	3d	Tue 02/08/00	Thu 02/10/00	42	Andrulis, c3risk, DCT, GDIS
44.	Post-Session Clean-up	0%	1d	Fri 02/11/00	Fri 02/11/00	43	Andrulis, c3risk, GDIS
45.	Generate Session Report	0%	10d	Mon 02/14/00	Fri 02/25/00		
46.	Draft DITT TO-BE IDEF0 Model Report	0%	3d	Mon 02/14/00	Wed 02/16/00	44	c3risk,Andrulis, GDIS
47.	Review Report Draft (consultant)	0%	2d	Thu 02/17/00	Fri 02/18/00	46	c3risk
48.	Review Report Draft (DCT)	0%	2d	Mon 02/21/00	Tue 02/22/00	47	DCT
49.	Review Comment Telecon	0%	1d	Wed 02/23/00	Wed 02/23/00	48	c3risk, DCT, GDIS, Andrulis
50.	Generate Final Report	0%	2d	Thu 02/24/00	Fri 02/25/00	49	c3risk
51.	OO Modeling	0%	42d	Mon 02/28/00	Tue 04/25/00		
52.	IDEF0 to OO Migration	0%	16d	Mon 02/28/00	Mon 03/20/00		
53.	Migrate To-Be IDEF0 Model to OO Model (9)	0%	8d	Mon 2/28/00	Wed 3/8/00	50	GDIS, c3risk, Andrulis
54.	Draft IDEF0 to OO Migration Report	0%	3d	Wed 3/8/00	Mon 3/13/00	53	c3risk, GDIS, Andrulis
55.	Review Report Draft (consultant)	0%	2d	Tue 3/14/00	Wed 3/15/00	54	c3risk
56.	Review Report Draft (DCT)	0%	2d	Thu 3/16/00	Fri 3/17/00	55	DCT
57.	Generate Final Report	0%	2d	Mon 3/20/00	Tue 3/21/00	56	c3risk
58.	Generate Briefing on IDEF0 to OO Migration	0%	3d	Tue 3/21/00	Fri 3/24/00	57	GDIS, Andrulis, c3risk
59.	Collaborative Session 3 (OO Modeling)	0%	22d	Mon 03/27/00	Tue 04/25/00		
60.	Pre-session Set-up and Review	0%	1d	Mon 03/27/00	Mon 03/27/00	58	Andrulis, c3risk, GDIS
61.	OO Training Session (10)	0%	3h	Tue 03/28/00	Tue 03/28/00	12,60	Andrulis, c3risk, DCT, GDIS
62.	Briefing on IDEF0 to OO Migration (11)	0%	3h	Tue 03/28/00	Tue 03/28/00	61	Andrulis, c3risk, DCT, GDIS
63.	Discuss DCT Comments	0%	2h	Tue 03/28/00	Tue 03/28/00	62	Andrulis, c3risk,

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Id	Task Name	% Complete	Duration	Start	Finish	Predecessor	Assigned
							DCT, GDIS
64.	Review/Finalize DITT OO Model (12 & 13)	0%	3d	Wed 03/29/00	Fri 03/31/00	63	Andrulis, c3risk, DCT, GDIS
65.	Post-Session Clean-up	0%	1d	Mon 04/03/00	Mon 04/03/00	64	Andrulis
66.	Collaborative Session 3 (DITT TO-BE Object Oriented Development) Final Report	0%	16d	Tue 04/04/00	Tue 04/25/00		
67.	Draft DITT To-Be Object Oriented Model Report (14)	0%	5d	Tue 04/04/00	Mon 04/10/00	65	GDIS, Andrulis, c3risk
68.	Review Report Draft (consultant)	0%	2d	Tue 04/11/00	Wed 04/12/00	67	c3risk
69.	Review Report Draft (DCT)	0%	3d	Thu 04/13/00	Mon 04/17/00	68	DCT
70.	Review Comment Telecon 1	0%	1d	Tue 04/18/00	Tue 04/18/00	69	c3risk, DCT, GDIS, Andrulis
71.	Review Report Draft (DCT)	0%	2d	Wed 04/19/00	Thu 04/20/00	70	DCT
72.	Review Comment Telecon 2	0%	1d	Fri 04/21/00	Fri 04/21/00	71	c3risk, DCT, GDIS, Andrulis
73.	Generate Final Report	0%	2d	Mon 04/24/00	Tue 04/25/00	72	c3risk
74.	Collaborative Session 4 (System Requirements Document)	0%	20d	Mon 05/01/00	Fri 05/26/00		
75.	Pre-session Set-up and Review	0%	1d	Mon 05/01/00	Mon 05/01/00	73	Andrulis, c3risk, GDIS
76.	Functional and System Requirements Review Session	0%	4d	Tue 05/02/00	Fri 05/05/00	75	Andrulis, c3risk, DCT, GDIS
77.	Post-Session Clean-up	0%	1d	Mon 05/08/00	Mon 05/08/00	76	Andrulis
78.	Generate Functional and System Requirements Document	0%	5d	Tue 05/09/00	Mon 05/15/00	77	GDIS, Andrulis, c3risk
79.	Review Document Draft (consultant)	0%	2d	Tue 05/16/00	Wed 05/17/00	78	c3risk
80.	Review Document Draft (customer)	0%	3d	Thu 05/18/00	Mon 05/22/00	79	DCT
81.	Review Comment Telecon	0%	1d	Tue 05/23/00	Tue 05/23/00	80	c3risk, DCT, GDIS, Andrulis
82.	Generate Final Document	0%	3d	Wed 05/24/00	Fri 05/26/00	81	c3risk
83.	Modeling Planning Meeting (14 & 15)	0%	1d	Thu 05/04/00	Fri 05/05/00	76SS+3d	c3risk, DCT, GDIS

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Appendix E – Node Tree

A4 PROVIDE VIRTUAL RESEARCH LIBRARY	Acquire, process, store, manage and make available information, documents and records from multiple sources that are considered of importance to the Army and the US military in a long-term electronic repository. This includes providing, and continuing to improve, links to useful resources and search/retrieval tools that access this data through the use of internet technologies and interfaces to the repository user.
A41 PROCESS ACQUISITION	Add value to an acquired document or record for inclusion in the VRL.
A411 CREATE PROCESSING PROCEDURES	Define and disseminate procedures and workflow for standardized handling and processing of documents to be placed in the VRL to include metrics, metadata, preservation and dissemination formats.
A412 RECEIVE DOCUMENT/RECORD	Receive an acquired record or document for input into the VRL, so that life cycle management for that record can be implemented.
A4121 REGISTER ACQUISITION	Log in all records received, this includes creation of receipt log, allows for population of certain metadata elements, notification to management of new records received and how this impacts priority decisions. Assign the correct workflow to the acquisition, either an ad-hoc workflow or a complex workflow.
A4122 PERFORM VIRUS CHECK	Check all documents for known viruses before assignment to processors.
A4123 VERIFY ACQUISITION COMPONENTS	Open and verify that all components of the acquisition have been received. Troubleshoot any components not received, if stated in procedures return acquisition to originator or attempt to acquire missing components.
A4124 APPEND RECORDS MANAGEMENT METADATA	Apply records management metadata to all records in the acquisition.
A413 PROCESS DOCUMENT/RECORD	Add value to a record for inclusion in the VRL this includes metadata creation and augmentation, classification verification, paper preparation for conversion, preservation and dissemination conversion, tasking and time tracking.
A4131 REVIEW DOCUMENT	Review records/documents and assign structural or hierarchical arrangement. Review for completeness of content. Review/determine file format. Inspect for classification, supplemental markings and privacy act information and remark as needed.
A4132 PERFORM CONVERSION	Convert a document from analog to digital, digital to digital to include creation of a preservation format (e.g. SGML, tiff, migrate native formats forward), creation of dissemination formats (e.g. PDF, HTML) and the creation of working copy for all pure electronic documents
A4133 ADD METADATA	Add prescribed metadata using policy and guidance as established by the Processing Team, as well as sending new terms, abbreviations, and definitions to Lexicographer for research and population of VRL Thesaurus.
A4134 ASSEMBLE DOCUMENT	Link created and augmented metadata to their respective record and document components, ensuring all document/record components are linked back to the "parent" document. This would include assembly of respective .tiff and .txt pages from analog conversion process, multi-media and multi-component records and utilization of the same metadata for preservation and

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	dissemination formats.
A4135 PERFORM QUALITY ASSURANCE	Verify availability and accessibility for VRL contents (web products, web documents, resource links, search and retrieval tools and long-term repository contents).
A4136 SEND DOCUMENT/RECORD TO PRESERVATION REPOSITORY	Distribute preservation format and associated metadata to preservation management system. Distribute dissemination format and associated metadata (metatags).
A414 PRESERVE DOCUMENT/RECORD	Receive processed record or document, place in preservation repository and make available the dissemination document. Generate capture and make available preservation metrics to senior CALL managers.
A415 MANAGE REPOSITORY	Ensure that document or record is controlled to ensure its authenticity and completeness (e.g. contains all of the parts of the document or record and all meta-data). Perform tasks that ensure appropriate disposition
A416 TRANSFER/RETIRE RECORD	Transfer documents or records to originator or designated recipient. Retire records regardless of media to a NARA approved facility.
A42 ADMINISTRATE VRL SYSTEM	Perform system life-cycle activities this includes data backup, file system maintenance, disaster recovery and software/hardware maintenance.
A421 PERFORM SYSTEM MAINTENANCE	Tune the system to improve response to users and to meet resource constraints.
A422 PERFORM SYSTEM DAY-TO-DAY FUNCTIONS	Perform activities associated with the operation of system to include user accounts, passwords, system security and accessibility.
A423 PERFORM DISASTER RECOVERY	Perform backup to ensure the ability to restore data either at site or at a different site due to system failure, natural disaster or sabotage.
A43 ENHANCE VRL	Improve the functionality of the VRL by implementing new or advanced capabilities and technologies and ensure interoperability.
A431 RESEARCH ADVANCED TECHNOLOGY	Research, evaluate, buy, design, build and test improved technologies that will enhance the functionality of the VRL this includes web servers, search engines, RDBMS, file format migration, storage technology.
A432 PROVIDE ADVANCED CAPABILITIES	Implement new or improved capabilities that enhance the functionality of the VRL these include search and retrieval, restructuring or quality improvement of contents.
A433 ENSURE INTEROPERABILITY	Make certain that the VRL abides by recognized standards that make possible interoperability with other systems.
A44 RESEARCH VRL	Conduct research using the capabilities of the CALL VRL to answer requests for information from government and non-government sources.
A441 CONDUCT REACHBACK	Conduct research using the capabilities of the CALL VRL to answer requests for information from U.S. forces conducting contingency and training operations and in support of U.S. Army force design initiatives. Consult subject-matter experts across the DoD, Joint and Army communities to respond to reachback information requests.
A442 RESEARCH RFI	Conduct research using the capabilities of the CALL VRL to answer requests for information from government and non-government sources to include intergovernmental request, FOIA, Privacy Act and on-line request.
A443 PREPARE RESEARCH PRODUCT	Prepare original written reports based on analysis of research of the CALL VRL to answer requests

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	for information from government and non-government sources or based on a perceived need for information.
A45 CONDUCT INFORMATION SECURITY	Protect information from unauthorized access or disclosure. Downgrade or declassify records based on classification guidance.
A451 DOWNGRADE RECORDS	Apply automated and semi-automated processes based upon the interpretation of original classification guidance documents or original classification guidance to downgrade from TS to S or S to C.
A452 DECLASSIFY RECORDS	Apply automated and semi-automated processes based upon the interpretation of original classification guidance documents or original classification guidance to redact and release for public dissemination.
A453 PERFORM CLASSIFICATION QUALITY REVIEW	Apply automated and semi-automated processes based upon the interpretation of original classification guidance documents or original classification guidance to publish unclassified documents to include CALL publications.
A454 PERFORM PHYSICAL SECURITY	Set up controls, such as locks, passwords, alarms, end of day checks and SOPs to protect equipment and information from unauthorized access.

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Appendix F – Acronyms

Acronym	
ABCA	American, British, Canadian, Australian
ALMC	Army Logistics Management College
ASD (C3I)	Assistant Secretary of Defense for Command, Control, Communications and Intelligence
BCTP	Battle Command Training Program
c3risk	c3risk inc
CAAT	Combined Arms Assessment Team
CALL	Center for Army Lessons Learned
CALLCOMS	CALL Collection and Observation Management System
CFR	Code of Federal Regulations
CTC	Combat Training Center
DISA	Defense Information Systems Agency
DITT	DoD Information Technology Testbed
DLSIE	Defense Logistics System Studies and Information Exchange
DoD	Department of Defense
DOIM	Director of Information Management
EDRM	Enterprise Document and Record Management
EO	Executive Order
EUCOM	European Command
FIPS	Federal Information Processing Standards
FMSO	Foreign Military Studies Office
FOIA	Freedom of Information Act
GDIS	General Dynamics Information Systems
GOTS	Government Off the Shelf
HTML	Hypertext Markup Language
ICOM	Input, Control, Output and Mechanism
IDEF0	Integrated Definition for Function Modeling
IDEF1X	Integrated Definition for Information Modeling
IIR	Initial Impression Report
IO	Improvement Opportunity
IPT	Integrated Product Team
MOU	Memorandum of Understanding
MMBL	Mounted Maneuver Battle Lab
NARA	National Archives and Records Administration
OO	Object-Oriented
PDF	Portable Document Format
PfP	Partnership for Peace
PIMS	PfP Information Management System
Pub	Publication
RDBMS	Relational Database Management System
RFI	Request for Information

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RM	Records Management
RMA	Records Management Application
SSN	Social Security Number
TOC	Technical Operations Center
TTP	Tactics, Techniques and Procedures
USC	United States Code
VRL	Virtual Research Library

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Appendix G – Object-Oriented Overview Briefing

End of Collaborative Session 2 is considered by all participants to be a critical turning point in the project path. The next activities include moving from IDEF0 methodology to the OO methodology and the briefing provided is available under separate cover through the CALL DITT.

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Appendix H – References

1. Scoping Session Workshop Report - Phase 1A, 20-21 December 1999
2. AS-IS Workshop Report, 11-13 January 2000
3. c3risk inc report to the National Media Laboratory, *Center for Army Lessons Learned, DoD Information Technology Testbed*, 10 November 1999
4. U.S. Department of Commerce, Federal Information Processing Standards Publication 183 (FIPS PUB 183), *Integrated Definition for Function Modeling (IDEF0)*, 1993 December 21
5. U.S. Department of Commerce, Federal Information Processing Standards Publication 184 (FIPS PUB 184), *Integrated Definition for Information Modeling (IDEF1X)*, 1993 December 21